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Lignin Chemical Structure Reported Solved

Dr. Harold Hibbert, Director of Industrial Chemistry At McGill University Determines Chemical Structure of Lignin Now A Waste Product —Discovery Held Important As Millions of Tons of Wood Are Wasted.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 10, 1939—As a result of work carried out in the Canadian Pulp and Paper Research Institute at McGill University, Montreal, a clear view has at last been obtained of the chemical structure of lignin. The scientist who has solved this problem, which has baffled chemists for many years, is Dr. Harold Hibbert, director of the Department of Cellulose and Industrial Chemistry at McGill University.

Lignin Problem Propounded Years Ago

When the Pulp and Paper Research Institute was inaugurated some 14 years ago, a problem put to Dr. Hibbert was, "What is the chemical nature of lignin, and how can this substance be used in the industrial life of one country?"

The first thing to do was to determine its structure, a problem which scientists had grappled with over a period of 60 years. From then until now Dr. Hibbert and his assistants have been carrying on an intensive research program, and now at last he has been able to report the success of his endeavors. He bases his success on certain theoretical deductions made some years ago as to the mechanism by which the plant grows under the influence of sunlight and the green coloring matter (chlorophyll) present in the leaves of the growing tree, the latter being able to convert water and carbon dioxide into sugars from one of which, glucose, the skeletal plant cell wall (cellulose) is formed. Another sugar (fructose) seems to serve as the energy-giving material which is used in the respiration process, by which the plant is kept alive and its vigor maintained.

The end products of respiration are carbon dioxide and water, that is, the same products from which the sugars were originally derived. Dr. Hibbert thought he had discovered certain marked similarities in the changes taking place in the fermentation of sugars by yeast and in those of plant respiration and argued that possibly lignin might be a waste product of plant respiration.

Isolation by Chemical Treatment

Quite recently in his laboratory A. B. Cramer and M. J. Hunter have been able to isolate by mild chemical treatment certain water soluble substances which apparently are closely related to lignin, although up to this time lignin had always been regarded as a water insoluble, inert dark brown product.

These oily products have been studied and the structures of some of them have been determined. The oils are substances related to coal and wood tar phenols from which bakelite and other resins are made. In addition, these phenols, the principal one of which is known as guaiacol, have been found to be combined with a chain of three additional carbon atoms to which are attached certain other chemical groups.

Chemical Substance Very Active

This type of a chemical substance is very active and according to Dr. Hibbert is the parent building unit from which the lignin is derived. Its structure also serves to confirm his view of it as a probable by-product of plant respiration.

The importance of this discovery by Dr. Hibbert and his co-workers is that it foreshadows the development of new and more economical methods for the production of pure cellulose from wood, and will enable the scientist and technologist to proced with more suitable and natural methods for the economic extraction and utilization of these simple lignin building units which from their very structure appear destined to find a very important place in industry.

Lignin Now a Waste Product

At present lignin is a waste product in the manufacture of sulphite pulp, and it is estimated that 1,000,000 tons of wood are wasted annually in the rayon industry alone. It requires approximately two tons of wood to make one ton of cellulose pulp, the other ton being poured into rivers or burned as a waste product. Of this wasted wood lignin forms a large part..

As one instance of the utilization of this waste product there has already been established in Canada a factory for the manufacture of vanillin, the active constituent of vanilla flavoring, at the rate of 200 pounds per day from lignin by-products obtained in the manufacture of sulphite pulp. Chemically speaking, this is a very small item but with the structure of lignin now clarified, a rapidly growing chemical industry using lignin as a raw material may readily be visualized.

New Products Aid Expansion of Paper Mills

Book Issued By Wisconsin Department of Commerce Entitled "Industrial Wisconsin" Shows 52 Per Cent Deficiency In Pulpwood — Stability of Employment In Paper Industry Is Highest In State — Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 10, 1939—Despite a decline in the nearby sources of raw materials, the paper industry in Wisconsin has forged ahead largely through the development of new products through research, and the change to specialty lines, according to the Department of Commerce of the State of Wisconsin. The department issued a booklet of more than 100 pages recently entitled "Industrial Wisconsin" written by Francis F. Bowman, Jr., in which the paper industry is featured. The department, until its recent discontinuance by the Legislature, was headed by W. F. Ashe, formerly personnel director of the Thilmany Pulp and Paper Company.

Ranking third in industrial importance in the state, the paper and pulp industry is the most important of those dependent upon the forest, the report points out. However, there is a deficiency of 52 per cent in the amount of pulp wood required, and the remainder is obtained from Michigan, Canada and the Scandinavian countries.

Deficiency of Pulpwood 52 Per Cent

"In order to maintain its position," says the report, "the paper industry must turn to Upper Michigan, Canada and even the Scandinavian countries for raw material. It is further threatened with a rapidly expanding kraft paper and board industry in the south and a large newsprint industry in Canada. However, through the constant application of research this industry has been able to develop not only finer grades of printing and writing paper, but also papers suitable to the wrapping and packaging of many articles."

Employment Up in Two Years

Comparisons show that the paper and pulp mills employed 15,342 persons in 1935 and increased this number in 1937 to 16,518. Converting plants had 1,530 employees in 1935 and 2,454 in 1927, and the paper box industry had 1,914 in 1935 and 2,307 in 1937. The 1935 value of paper and pulp products in Wisconsin was $93,876,000, and the value added by manufacture was $34,407,000. Salaries and wages paid to 15,342 employees amounted to $17,529,000. Converting plants showed $11,807,000 in value of products for 1935, $4,189,000 value added to manufacture, and $1,630,000 paid to 1,530 employees. Paper box figures were: Value of product, $9,509,000; value added by manufacture, $4,144,000; salaries and wages paid to 1,914 employees, $2,090,000. The amount spent for raw materials, fuel and energy was 63 per cent of the dollar for paper and pulp, 63 per cent for paper products and 56 per cent for paper boxes.

Based on the total employees working and values added by manufacture, the report shows Wisconsin ranking second in the nation in paper and pulp, almost equalling New York, seventh in paper products and eleventh in paper boxes.

Stability of Employment High

In the stability of employment, the paper industry ranks first in the state. In a study covering the years 1909 to 1935, the high point was 101 per cent and the low point 99 per cent, or a deviation averaging only 2 per cent during that entire period.

Growth during the period from 1914 to 1929 was most noticeable in the miscellaneous paper industries, converting and specialties. The department shows an increase of 851 per cent, based on changes in total employees and value added by manufacture. This trend takes on added importance when it is noted that for the United States as a whole the average growth was 169 per cent in the same period. Paper and pulp mills kept ahead of the national trend, with an increase of 210 per cent in Wisconsin compared to the national average of 177.5 per cent. Expansion of the paper box industry showed a like trend, with 491.5 per cent for the state, against 102.5 per cent nationally.

For the period from 1929 to 1935, however, the effect of the business depression is evident from tabulations in the report. Converting and specialties expanded 41 per cent in Wisconsin against a national average of 16.5 per cent. Paper box industries showed a decline of 7.5 per cent as compared to 1 per cent for the United States, and paper and pulp a decline of 12.5 per cent against the national average of 10.5 per cent.

Profit and Loss Studies Show Progress

Profit and loss studies reveal the extent to which the paper industry made progress in recovery. Aggregate profits of representative paper and pulp mills in 1929 were $6,580,749. From the low of the depression, the profits of these same mills were: 1931, $2,713,039; 1933, $1,641,916; 1935, $2,667,303, and in 1937, $5,489,091. This brought the mills within 83.4 per cent of the 1929 aggregate by the year 1937. On a percentage basis, there was a decline in earnings of approximately 80 per cent from 1929 to 1933, and a gain of more than 200 per cent from 1933 to 1937. Figures for 1938 were not available, but they will again show a drop from the 1937 figure.

Fox River Mills Markets New Line

Since the Fox River mills were purchased last fall by E. A. Oberweiser, president, and associates, a quality improvement program has been carried on. Manufacture of the new "Masterline" lines was started in December. An energetic sales campaign has been launched, and the company expects to expand its production considerably this year.

Investigating German Pulp Dumping

K. S. Dickinson, president and general manager of the Little Rapids Pulp Company, Little Rapids, Wis., is aggressively pushing a government investigation of the alleged dumping of chemical pulps into the

United States by Germany. He has asked Senator Alexander Wiley of Wisconsin to expedite an inquiry by the treasury department.

Mr. Dickinson's efforts supplement those of the United States Pulp Producers Association, which has called the situation to the attention of the treasury department. It is pointed out that German bleached and unbleached sulphite pulp sold in Germany for $85.71 and $71.43 per ton, and that the same grades are being sold in the United States for $45 and $50 per short ton. Request has been made that the anti-dumping act be invoked, levying an extra duty of 25 per cent on products sold cheaper here than in the country of origin.

It is charged also that German firms are buying pulp wood in eastern Canada and shipping it to Germany to be processed. The cost of this alone, it is alleged, is more than the price at which the German product is sold on the American market. As a result of these operations, fifty per cent of the American pulp mills have been forced to curtail operations.

Neenah Foundry Adds to Plant

Three sections are to be added to the buildings of the Neenah Foundry Company, Neenah, Wis., makers of paper mill equipment. The additions, costing approximately $20,000, will give an additional 6,500 feet of floor space, according to E. J. Aylward, president of the company.

Manufacturers Association Meets at Wausau

A meeting of the Pulp and Paper Manufacturers Association, made up of representatives of 20 pulp and paper mills in Wisconsin, Michigan and Minnesota, was held last week at Hotel Wausau, Wausau, Wis. John Stevens, Jr., vice-president of the Marathon Paper Mills Company, Rothschild, Wis., is president of the Association, and L. J. McNamara of the same company, is secretary-treasurer.

Speakers were P. J. Massey, general manager of the Combined Locks Paper Company, Combined Locks, Wis.; C. R. Seaborne, chief engineer of the Thilmany Pulp and Paper Company, Kaukauna, Wis., and L. J. Barrette, employment manager of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis. Their subjects dealt with industrial realtions.

Louis Bloch Gets 45-Year Pin

Crown Zellerbach Corporation day was celebrated at the Golden Gate International Exposition on Treasure Island on April 8 at a luncheon given for the purpose of tendering Louis Bloch his 45-year pin for continuous service with the Crown Zellerbach Corporation and predecessor companies. Mr. Bloch, who is chairman of the board of the corporation, and a director in the Exposition, gave up the study of medicine to enter the bag plant of the Crown Paper Company in San Francisco in March, 1894.

Tributes to Mr. Bloch were paid by W. R. McHaffie, Los Angeles, who wears a 45-year pin and David J. Goldsmith, secretary of the Corporation, who has served continuously for more than 30 years.

The service pin was presented to Mr. Bloch by Mrs. Ludwig Schwabacher, widow of the late Ludwig Schwabacher, who was general manager of the Crown Paper Company at the time Mr. Bloch entered the bag plant in 1894.

Mr. Bloch recalls that it was "at seven o'clock one morning in March, 1894, when I walked into the paper bag plant of the Crown Paper Company in San Francisco, donned a pair of overalls and began tying up paper bags, working long hours for the magnificent stipend of seven and one-half cents an hour."

Today the Crown Zellerbach Corporation has an annual producing capacity of 500,000 tons of paper and in addition owns fifty percent control of fiberboard mills which have an annual capacity of about 200,000 tons of boxboard and boxboard products. There are approximately 20,000 stockholders and an employee census of about 10,000. The yearly payroll exceeds twelve million dollars.

Mergers of pioneer Pacific Coast paper concerns evolved the Crown Columbia Pulp and Paper Company, and in 1907, Louis Bloch was placed in full charge of its affairs. Subsequent mergers evolved the Crown Willamette Paper Company. In 1928 a merger of this company with the Zellerbach Paper Corporation was made, the corporation name changing to the Crown Zellerbach Corporation.

LOUIS BLOCH

I. Zellerbach, chairman of the executive committee of the corporation, entered the paper business in San Francisco in 1888. His enthusiasm and genius were mainly responsible for growth of the Zellerbach Corporation of which his father, Anthony Zellerbach, was the founder.

J. D. Zellerbach, son of I. Zellerbach, is president of the Crown Zellerbach Corporation.

Paper Men in Commerce Chamber

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 12, 1939—Two paper manufacturers have been nominated as directors of the United States Chamber of Commerce for the coming year. Election will be held at the annual convention of the National Chamber early in May.

Alexander Thomson, chairman of the Board of the Champion Paper and Fibre Company, Hamilton, Ohio, has been nominated for the Fifth Election District, and Joseph M. Conway, president and general manager of the Hoberg Paper Mills, Inc., Green Bay, Wis., was nominated for the Sixth District.

Abitibi Bondholders Urged to Defer Action

Sir Henry Drayton, Chairman of Defense Committee, Advises Bondholders of Abitibi Power & Paper Co. To Defer Action On Ripley-Symington Foreclosure Plan — Engineers Form Forest Section In Thunder Bay Area.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 10, 1939—Sir Henry Drayton, Toronto, who is chairman of the Defensive Committee, has sent a letter to the bondholders of the Abitibi Power & Paper Company, Limited, urging them to defer any action in connection with the Ripley-Symington plan involving foreclosure. As the last date for the withdrawal of the bonds which have already been deposited, is April 27, holders are urged to withdraw them immediately so that due consideration may be given to alternative reorganization plans and the implications of the Ripley-Symington plan be more fully understood. The latter is criticized on several grounds, among them being uncertainty as to what assenting bondholders will receive and the extent of obligations that will be placed ahead of the securities they receive. The likelihood of protracted and costly litigation is also set forth.

The Defensive Committee states that the preferred shareholders plan of reorganization meets the required conditions in some respects as it gives bondholders security in the form of marketable first mortgage bonds in lieu of arrears of interest, provides them with convertible 5 per cent bonds in lieu of principal of present bonds up to the ability of the company to earn that percentage, does away with protracted litigation and involves participation in other profits if earned through the conversion clause. The committee believes, however, that control of the company should remain in the hands of the bondholders and that provision should be made for unsecured creditors. It is also of the opinion that the company should be taken out of insolvency as soon as possible in the interest of the bondholders.

H. J. Symington, chairman of the Bondholders Protective Committee, says that proposal to rehabilitate the company by means of a judicial sale of the property has been receiving a favorable response. The committee is convinced that there are no available means of removing the company from receivership and of placing it effectively capitalized on a competitive basis within the industry other than by sale and purchase by the bondholders. Chairman Symington adds that many efforts have been made with representatives of the junior securities to effect a compromise looking toward the ultimate goal of a sound and constructive reorganization and, after seven years, these efforts have been unsuccessful. As bondholders have until April 28 to indicate their support of the Bondholders' Committee it is expected there will be heavy deposits during the present week. Indications are that the committee will declare the plan operative after that date.

Arrow Paper Products Granted Charter

A provincial charter has been granted to Arrow Paper Products, Limited, Toronto, with an authorized capital of $40,000 to manufacture, sell and deal in all kinds of paper, paper board, wood pulp and by-products. William H. Austill, Toronto, is head of the new organization. Allied Paper Products, Limited, has been awarded a charter to make and deal in paper of every kind, boxes, etc. The head office of the company is at Eastview, Carleton county, Ont., and the authorized capital is $40,000. Among the provisional directors of the company are T. G. Lewis, H. C. Whiteside, and W. J. Lewis, all of Ottawa, Ont.

A party of eleven German technicians spent a few days in Toronto, Niagara Falls and other points in Ontario during the past week and visited pulp and paper mills. The visitors were interested in pulp wood of which a considerable quantity was shipped to that country last year from New Brunswick at a figure reported to be considerably better than the local market price.

Forest Section Formed in Thunder Bay

A Northwestern Ontario section of the Canadian Society of Forest Engineers has been formed for the creation of a better understanding of forestry in the Thunder Bay district and to promote forestry practices tending toward the permanency of pulp wood and other supplies. E. E. Grainger, of the Lake Sulphite Pulp Company, Limited, Red Rock, Ont., was elected chairman, A. H. Burk, of the Great Lakes Paper Company, Limited, Fort Williams, vice chairman, and R. Young of the same company, secretary-treasurer. The directors are James Davis, Ontario Paper Company, Limited, Heron Bay; W. D. Christie, Abitibi Power & Paper Company, Limited, Port Arthur, and J. Raeburn, North Star Lumber Company, Two Harbors, Minn.

A. Johnson Gives Address on Paper

A. Johnson, sulphite superintendent of the Provincial Paper, Limited, Port Arthur, gave an instructive address before the Skulls Club, Port Arthur, Ont. He reviewed the history of the pulp and paper industry from the time paper first was made by the Chinese in 105 A. D. and also described the principle of pulp rayon. The members of the club were taken on a tour through the Provincial mill.

Hon. Gordon Conant, Attorney General of Ontario, has received formal notification from Ottawa, that a recent investigation into the manufacture and sale of paper board shipping containers and related products has resulted in the finding that two combinations described as Container Materials, Limited, and Shipping Case Materials Manufacturers Association have operated and are likely to operate to the detriment and against the interest of the public and are therefore combined within the meaning of the Combines Investigation Act. Accompanying the notification was a package of evidence and exhibits which will require lengthy consideration by the Attorney General's Department officers before it is determined what, if any, action will be taken in regard to the Ontario firms involved.

Demand for Kraft Leading Chicago Market

Midwest Paper Trade Reports Fair Demand For Many Grades of Paper With Kraft In Stronger Position As Inclement Weather Retards Retail Buying—Paper Milk Containers Apparently Here To Stay—Other News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., April 10, 1939—Chicago paper market went into the final pre-Easter week still searching for that elusive "break" expected to start the demand ball rolling. Reports from various local centers indicate that while demand is fair, there are some markets not so strong as a week or so ago, as evidence of an even greater need for close attention to the job of selling paper at a profit rather than, as one merchant stated it, "just selling it". Demand has been somewhat spotty while the weather conditions in this part of the country have also been a factor in slowing down retail demand.

Basically, the kraft paper market is reported in about as strong a position as any of the group with demand broadening out and the underlying structure at least comparatively firm. Sulphite bonds receded from the optimistic tone of a few weeks ago although it is felt here that business improvement will serve to swing these grades into the upward trend. Books are in fair shape, say local commentators, while covers have not changed their position. Newsprint and groundwoods are experiencing fair demand with the undertone firm. Waste papers continue to be firm in marked contrast to their position a month ago.

Paper Milk Container Here To Stay

The controversy between adherents of paper milk bottle and those who prefer, or at least manufacture, the glass variety continues to wage unabated. It is even reported that the fight is being carried to the Illinois Legislature and that certain sections of the newly introduced Milk Control measure have a direct bearing on the situation. Sanitation propaganda from the glass container industry has been a feature of the past few weeks and those representatives of the paper container industry have been forced to dig up statements from experts to counteract this effect.

From all sides, however, comes a growing belief that the paper milk container is here to stay, that it fills an economic need and will outlive any immediate opposition. The acceptance of this type of container on the part of suburban milk distributors and their customers is a definite indication of this fact. That the paper variety is able to withstand the attacks of well organized opponents is taken as a specific tribute to the fact finding job done by paper and board manufacturers and their associations. Paper and board converted products have made a material dent in the sales of wood and other basic products and the industry in this locality is confident that the outcome of the paper versus glass argument is eventually going to be extremely beneficial, in pointing out to the consumer public the many and varied new uses of paper as an economical, sanitary and convenient substitute for other products.

Chicago To Be Center of New Training Course

Chicago is obviously to be the center of operations of the Industrial Training Corporation sponsored by the Paper and Twine Club. This seems a certainty of a Board of Governors regulating the operatings of salesmen's training courses are all from cities adjacent to Chicago. Included in the Board personnel are representatives from Green Bay, Wisconsin; Indianapolis; Columbus; Rothschild, Wisconsin; Kalamazoo; Hamilton and Cincinnatti. The group, appointed by F. P. Vaughan, president of the Bay West Paper Company and head of the Paper and Twine Club is at present examining and perfecting a course of instruction and a clinical program which will tie directly in with the schooling received by the salesmen.

Paper Men Listed in Committee Directory

The Chicago Association of Commerce has recently issued its Committee Directory which lists the names of six well known paper executives as members of the Paper and Envelopes Division. John D. Swigart, Swigart Paper Company, is the chairman. Other members are James M. Abell, J. W. Butler Paper Company; R. E. Jones, Hobart Paper Company; J. Owen Lee, Great Lakes Paper Company; Harry A. Swigert, Neostyle, Inc., and E. N. Whitaker, the American Paper Goods Company.

F. J. Danner of the Chase Bag Company; L. T. Wilson of the Creamery Package Company and G. R. Gordon of the Container Corporation of America are listed as members of the Industrial Traffic Council.

Government Paper Bids

WASHINGTON, D. C., April 12, 1939—The Government Printing Office has received the following bids for 3,449 pounds (15,750 sheets) of 25 x 38, 50 per cent rag, white coated book paper: Virginia Paper Company, 12.75 cents; Barton, Duer & Koch Paper Company, 13.5 cents; and Stanford Paper Company, 14 cents.

For 10,250 pounds (100,000 sheets) of 75 per cent rag, 30 x 40 lithograph finish map paper: Mudge Paper Company, 11.5 cents; Butler Company, 11.87 cents; Barton, Duer & Koch Paper Company, 11.95 cents; R. P. Andrews Paper Company, 12 cents; Mathers-Lamm Paper Company, 11.5 cents; Walker, Goulard Plehn Company, 12.37 cents less 3 per cent; Old Dominion Paper Company, 11.949 cents; and Stanford Paper Company, 11.49 cents.

For 218,592 pounds of supercalendered book paper in 28½ inch rolls: R. P. Andrews Paper Company, 4.26 cents; Stanford Paper Company, 4.65 cents; Barton, Duer & Koch Paper Company, 5.25 cents; Whitaker Paper Company, 5.04 cents; Marquette Paper Company, 4.57 cents; Mudge Paper Company, 4.25 cents; Perkins-Goodwin Company, 4.39 cents; Walker, Goulard Plehn Company, 4.95 cents.

For 6,600 pounds (50,000 sheets) of 50 per cent rag, bond paper: R. P. Andrews Paper Company, 13 cents; Barton, Duer & Koch Paper Company, 14.75 cents; and Aetna Paper Company, 16 cents.

PaperSalesmenFormulateTradeResolutions

Rittenhouse Association of Philadelphia Paper Salesmen At Meeting of Resolutions Committee On March 24, Pledge Cooperation For Betterment of Trade Customs—G. A. Heintzemann To Address Sales Students.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., April 10, 1939—The Rittenhouse Association of Philadelphia Paper Salesmen, organized this past summer, with Harold T. Robinson, president, and now having a membership of 128, has just placed before The Paper Trade Association the following resolution, formulated by the members of the Resolutions Committee, appointed by its executive board comprising the following members: George Phelps, J. L. N. Smythe Company; Alfred Snowden, D. L. Ward Paper Company; H. L. Leatherman, Thos. W. Price Company; Wm. Wolohan, Molten Paper Company; Hugh Monaghan, Wilcox-Walter-Furlong; Merle Heberle, Garrett-Buchanan Company; Harold T. Robinson Whiting-Patterson Company; Joseph Howe, Whiting Paper Company; Earl Miller, Paper House of Penna.; Edward Mouten, Paper Merchants, Inc.; Edward J. McCorkendale, Quaker City Paper Company; Preston Rhoads, Hooper Paper & Twine Company; Terrence Horgan, J. R. Howarth Paper Company; Charles Stokes, Sabin-Robins; Louis Brown, Penn Card & Paper Company; Irwin Millard, Philadelphia Card & Paper Company, and Joseph Sassloff, Wilder Brothers.

The Resolutions Committee, composed of Preston Rhoads of Hooper Paper & Twine Company; Hugh Monaghan, Wilcox-Walter-Furlong Company; William Wolohan, Molten Paper Company, and Thomas J. McIntyre, Schuylkill Paper Company, and secretary of the Association, met with president Robinson at The Poor Richard Club late in March and the following resolution was formulated:

Resolution of Executive Board

"At a stated meeting of the Executive Board of the Rittenhouse Association of Philadelphia Paper Salesmen, held March 24, 1939, the following resolution was formulated and unanimously approved:

WHEREAS: Competitive conditions existing today in the Philadelphia market are causing a serious loss of income to both paper merchant and paper salesmen, and

WHEREAS: Our employers, the paper merchants of Philadelphia have incurred considerable expense in publishing price lists in order to enable us to sell paper profitably, and

WHEREAS: There exists a standard set of so-called trade customs published by each merchant in these price lists, and

WHEREAS: It is common knowledge that neither the published prices nor the trade customs are being adhered to, be it

RESOLVED—

That we, the members of the Rittenhouse Association of Philadelphia Paper Salesmen, go on record as offering our whole-hearted cooperation to any program for bettering the above conditions which may be adopted by the Paper Trade Association of Philadelphia and do earnestly entreat you that some definite steps be taken by your Association to remedy the present existing conditions."

G. A. Heintzemann to Address Salesmen

George A. Heintzemann, Dexter Folder Company, Pearl River, New York, will address the students of the Salesmen's Study Course, being conducted by the Paper Trade Association of Philadelphia, at Franklin Institute at a meeting April 11th. Mr. Heintzemann will discuss "Printing processes and how they affect selling paper", and "To-day's problems that stump the paper salesmen." A symposium devoted to answering questions by the salesmen will be handled by Hamilton R. Disston, who so ably conducted this feature at the last session of the Study Course.

Scott Paper Co. Mails World's Fair Stamps

Scott Paper Company, Chester, Pa., mailed to its customers recently more than 5,000 first-day covers bearing special commemorative stamps from the post office at the New York's World Fair. The cover is illustrated by a diagram of the Trylon and Perisphere and contains a folder showing the transportation facilities that will bring visitors to the fair.

Holstein Moves to New Warehouse

Charles and Albert Holstein, of the Holstein Paper Company, Baltimore, will remove after April 15th to their new warehouse at 203 S. Hanover street, where they will augment their well stocked line of wrappings, bags, twines, etc.

T. J. Russell Promoted

FORT EDWARD, N. Y., April 10, 1939—Timothy J. Russell, assistant superintendent of the Port Edwards, Wis., mill of the Nekoosa-Edwards Paper Company, has been appointed superintendent of that mill. Mr. Russell was formerly superintendent of the local mill of the International Paper Company, leaving early in 1937 to go to the Nekoosa-Edwards Paper Company. Prior to going to Port Edwards, he was for fifteen years with the Hammermill Paper Company, Erie, Pa.; four years with the Frazier Paper Company, Madawaska, Me.; and seven years at the Fort Edward mill of the International Paper Company.

Mr. Russell is considered an authority on the manufacture of fine papers and specialties and it is understood his services with the Nekoosa-Edwards Paper Company have been very satisfactory and his promotion regarded as well deserved.

J. D. Starr, Jr. to Cover New England

The Missiquoi Corporation announces that J. D. Starr, Jr., will cover Boston and the New England territory from the Boston office at 89 Broad street.

Financial News of Pulp and Paper Industry

Operations Resumed By Dexter Mill—Stevens & Thompson Elect Officers —Directors Elected By American Writing Paper Corp. — Gaylord Container Reports Profit—Walter F. Daley Joins the New Haven Pulp Co.

New York Stock Exchange

High, Low and Last for the Week Ending April 12, 1939

	High	Low	Last
Armstrong Cork Co.	37¼	33½	35
Celotex Corp.	12½	10	11⅜
Certain-Teed Products Corp.	8½	6½	7⅝
Certain-Teed Products Corp., pf.	32	22¼	29
Champion Paper & Fibre Co.	20¼	18⅜	19
Congoleum-Nairn Co.	21	19	21
Container Corp. of America	10½	9⅜	10⅛
Continental-Diamond Fibre Co.	6	5⅛	5¼
Crown-Zellerbach Co.	10⅜	9	10⅜
Crown-Zellerbach Co., pf.	80	78	78
Flintkote Co.	20½	16¼	18¾
Robert Gair	2⅜	2⅛	2½
Robert Gair, pf.	9⅜	8¼	9
International Paper & Power	8⅜	6¾	8⅛
International Paper & Power, pf.	31½	26⅛	29½
Johns-Manville Corp.	73¼	65¼	72¼
Johns-Manville Corp., pf.	126¾	125½	126¾
Kimberly-Clark Corp.	20½	20	20
MacAndrews & Forbes	29	29	29
MacAndrews & Forbes, pf.	131	130	130
Masonite Corp.	41	34½	38¾
Mead Corp.	8¼	7⅜	8½
Mead Corp., pf.	62	62	62
Paraffine Companies, Inc.	44	44	44
Paraffine Companies, Inc., pf.	100½	100½	100½
Rubberoid Co.	20	18½	20⅜
Scott Paper Co.	46¾	45	45¾
Sutherland Paper Co.	25¾	25	25
Union Bag & Paper Corp.	8⅜	6¾	8¼
United Paperboard Co.	4⅜	4	4⅜
U. S. Gypsum Co.	83	77	80

New York Curb Exchange

High, Low and Last for the Week Ending April 12, 1939

	High	Low	Last
American Box Board Co.	6⅛	5¾	6¼
Brown Co., Pf.	10½	8¼	10½
Great Northern Paper	35	33	33
St. Regis Paper Co.	2⅜	2	2⅛
St. Regis Paper Co., pf.	39	39	39
Taggart Corp.	3¼	3	3⅛

Dexter Mill Resumes

[FROM OUR REGULAR CORRESPONDENT]

DEXTER, N. Y., April 10, 1939—Operations were resumed last week at the Dexter Sulphite Pulp and Paper Company under an equity receivership. Both of the paper machines in the Frontenac mill were started up but announcement was made that the sulphite branch will be ready for a resumption within the next few weeks. It is also expected that the bag factory will be running within two or three weeks. An official declared that the mill has orders booked and that there is no reason why the mills cannot operate continuously. About 50 hands are being employed but the entire force of several hundred workers will be placed as soon as possible. William Livingston, superintendent of the mills for the past several years, continues in that capacity under the equity receivership set up by the federal court recently upon petition by the Federal Reconstruction Corporation, holder of a $350,000 first mortgage on the property.

A resolution was adopted this week by the village board of trustees giving appreciation to Congressman Francis Culkin, Attorney Raymond Cornwall and Brayton C. Foster for their efforts in bringing about a resumption of operations. The resolution praises their hours of untiring labor against stiff opposition to prevent liquidation of the concern which would have been fatal to the village and its citizens. It also lauds the efforts of Congressman Culkin who was instrumental in bringing about a hearing between officials of the company, the creditors, and the officers of the Reconstruction Finance Corporation. The resolution also expresses appreciation to those Watertown business men who realized the seriousness of the situation and what effect it would have on their business, who cooperated and urged political representatives to bring pressure to prevent liquidation.

Stevens & Thompson Elect Officers

After reorganization and release of the Stevens & Thompson Paper Company from operation under Section 77-B, the new Board of Directors met on March 14th and elected the following officers: Chairman of the Board—F. L. Stevens; President and General Manager—J. W. Bright; Vice President—F. N. Stevens; Secretary and Treasurer—H. B. Thompson.

The board also confirmed the appointment of R. B. Stevens as sales manager. The general sales office is located at the mill in Greenwich, N. Y. Sales activities on the company's line of products, consisting of resale and industrial toilet tissues, towels, Atlasta and Sanitray Dishes, Old Town Paper Plates, and Sanitray Egg Boxes, will be directed from this office.

A New York City branch sales office is located at 205 East 42nd street, Room 1412, New York City. M. G. Dokken is in charge. The company also operates a branch office in Chicago, at 333 N. Michigan avenue. J. R. Odell is in charge.

American Writing Co. Elects Directors

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., April 10, 1939—Directors were elected at the annual meeting of the American Writing Paper Corporation, this past week, with the following being named to the board:—Thomas H. Blodgett, Russell S. Madden, Lysle E. Pritchard, Frank S. Shaw, George E. Warren and Leon M. Yoerg.

Gaylord Container Nets $869,070

The Gaylord Container Corporation reports consolidated net profit of $869,070, equal, after preferred dividend payments, to $1.11 each on 539,221 shares of common stock outstanding. Net income for 1937 was $1,765,235, or $2.76 each on the common stock.

Joins New Haven Pulp & Board Co.

Walter F. Daley, formerly connected with the Robert Gair Company, New York, N. Y., has become conected with the New Haven Pulp & Board Company, New Haven, Conn., in charge of new development and promotion work.

Do Paper Salesmen Need Training?

By William Bond Wheelwright

A paper salesman was calling on one of the biggest printing plants in Chicago. The purchasing agent told me what happened. Could it happen almost anywhere? You decide.

SALESMAN: "This new folding enamel is positively the best value you've ever seen—I'm telling you it can take it. There isn't another sheet like it. It's the Joe Louis of the paper ring."

P. A.: "I'm looking for a good strong sheet right now for heavy duty—how many double folds will this show on a Schopper?"

SALESMAN (Whose ideas on folding tests are minus zero): "It's good for 300—easy."

P. A.: "When you get back to the office I wish you'd write me a letter confirming that statement. If it's as good as you say I'm interested."

This P. A. knew his stuff—He didn't take any stock in the "Joe Louis of the paper ring."

Next day the salesman returned, hoping he didn't look as sheepish as he felt.

SALESMAN: "I've got to take back what I told you yesterday about that folding enamel. It is a dandy sheet all right but I got my signals mixed on the Schopper test—spoke out of turn—"

P. A.: "Well what did you find out?"

SALESMAN: "I've got to admit I was way off. I thought the boss told me different. Actually, he says it is only good for 30 double folds."

Deficient in Fundamentals

The purchasing agent who told me this story is strongly of the opinion that paper salesmen as a whole are decidedly deficient in fundamental knowledge about paper. This is not strange considering how most salesmen qualify for their jobs. They have little opportunity to learn under experienced guidance, and the executives who would be qualified to teach apprentices have too much else to do. In only a few instances, which from long contact with the paper industry have come to my notice, are the salesmen given any well considered apprenticeship. Like Topsy, they "just growed."

No one ever masters the paper business completely. The late Isaac W. Carpenter once wrote a circular letter to his sales force, in which he said, "Just forty-five years ago today, I entered the employ of the Ypsilanti Paper Company desiring to learn the paper business. I have not mastered it entirely but have enjoyed forty-five years' service. I believe the paper business is a pretty good business, take it one year with another, and I do not see any reason why every man in our employ cannot do well in it if he will but follow out the old time principles of honesty, industry and frugality, coupled with a complete knowledge of the lines he sells. *It strikes me that knowledge is power.*"

Complete Mastery Difficult

This last sentence, written eighteen years ago, is just as true as ever—it is Gospel true. But "a complete knowledge of the lines" has been getting more and more difficult to master. It is not enough to know the brands and prices. It is also necessary to learn as much as possible about the processes and use-requirements of paper. Each year sees new technical advances in methods of printing and converting. Paper has to be adapted to changing conditions, yet not many mill salesmen get to know the printers' or the converters' requirements, and few merchants' salesmen get to understand the manufacturing limitations. The result, as F. L. Zellers, president of the American Paper and Pulp Mill Superintendent's Association recently told the Salesmen's Association, is a plague of "rejections and complaints because of the lack of cooperation between sales and production."

A prominent paper merchant advised Mr. Zellers before composing his address, "to stress the point that the art of paper manufacturing is, at the present time, in perhaps the most revolutionary stage that it has been for a hundred years." This, he added, applied as well to the methods of distribution. "We need more constructive sales effort," he concluded, "In the past there has been too much order-taking and not enough constructive selling."

A Practical Course Can Be Had

Enough witnesses have now testified to indicate that training for paper salesmen—mill and merchant salesmen alike—is needed. On this count I rest my case. It only remains to show that a practical course can be had, if enough mill-men and merchants convinced of this need are ready to support it.

Such a course has been announced in preparation under the auspices of the Paper and Twine Club, and under the direction of the Industrial Training Corporation of Chicago. I have no connection with either, but am sufficiently convinced of the need of the training to have made a careful investigation of the plan and the personnel behind the plan.

President Garfield, it was, I believe, who said the best school he ever attended was a pine log with Mark Hopkins sitting on the opposite end from him. If there is to be a training course for paper salesmen it seemed to me the question of who is to be on the other end of the pine log is paramount.

I therefore arranged a three-cornered interview with Dr. S. N. Stevens, who is Director of Education of the Industrial Training Corporation, and Streeter Bush, recently sales manager of the coarse paper department of Carter Rice & Co., and at one time in charge of the LaSalle Extension University training course for paper salesmen. The latter course enjoyed some success, but during the depression it became impossible to get enrollments, so it has been dropped. Nevertheless Mr. Bush is peculiarly qualified by his experience to evaluate the program proposed by the Industrial Training Corporation, and I may have some claim to ability to size it up.

We were both very favorably impressed by Dr. Stevens. We recognize that *practical paper men* are not *practical teachers;* only by a combination of both could a worth while course be compiled and taught.

I followed up this interview by spending three hours inspecting the facilities of the Industrial Training Corporation, under the guidance of another of their executives. This organization is training some

18,000 men at present in other industries, notably refrigeration and air conditioning. It has graduated more than 40,000 and has devoted 22 years of service to vocational training.

Laboratory Work

The correspondence tuition is supplemented by intensive practical work at the laboratories and work shops of the corporation. It is conducted, as I observed in a thorough, workmanlike manner. Similarly, the clinics included in the proposed training for paper salesmen will complement the extension training by correspondence. The laboratories are so equipped for air-conditioning demonstrations that it will be possible to create artificially the same conditions which occur naturally in pressrooms and converting plants. By means of refrigeration equipment it will even be possible to reproduce the precise sequence followed by paper in transit during cold weather into warm pressrooms, converting plants, etc. The practical object lessons in the behavior of paper under varying humidity and temperature conditions will constitute a very enlightening procedure. It will show salesmen how to deal with baffling conditions in pressrooms and elsewhere. That alone might well be worth the price of the full tuition to any paper salesman.

What I wish to impress upon the reader is, that the course will be eminently practical. That it will supply valuable information, generally obtained only under trying and costly experiences with one's customers.

Practical demonstrations of printing will also be available at the clinics, and covered by the technical lessons.

More Approved Sales Techniques

The most approved sales techniques will be taught both by texts, by film, and personal demonstration. In a few months the student will review the experiences which he otherwise would only meet in the course of years. Thus he will be better prepared to cope with the more exacting situations in selling when they do occur.

In my opinion, the proposed course will justify the time and money required to take it. The more men who take it the better it will be for the industry as a whole. Good educational facilities for paper technologists have existed for over 25 years. Good schooling is available for printers. Even the foremen of printing plants are educating themselves through the efforts of the International Association of Printing House Craftsmen. The result is that many printers have more practical knowledge about paper than many paper men themselves. No paper man is so perfect that he cannot profit from the pooling of knowledge to be assembled with the assistance of many specialists active in the paper industry. If they don't want their customers to know more about the use-requirements of paper than themselves, they had better take this course seriously. It is a great opportunity.

I understand that some 600 have already enrolled, but without a substantial increase immediately in applications, the Industrial Training Corporation which has already invested over $20,000 in preliminaries, will not feel justified to complete its preparations.

I have heard it remarked that some men would not enroll for the course until they could see it in black and white. To me that is as ridiculous as if I should decline to pursue my studies in the Harvard Summer School again until I had read the professor's lectures! Much of the training will never appear in print. There is no possible way to show it completely to people "from Missouri".

Only the man who disbelieves entirely in vocational training can consistently disregard this course. But if that very man would take the trouble to investigate the results of the kind of training given by The Industrial Training Corporation, I believe though he might come to scoff, he would remain to pray.

Those who know me cannot fairly question my sincerity in what I have written. My investigations were unbiased. As I remarked, I have had no connection with this project whatsoever, but as a member of the third generation of papermakers in my family I am interested deeply in the welfare of the paper industry. In many respects I am proud of it. But I cannot shut my eyes to its shortcomings, or too afraid of what others may think, to affirm my belief that the Cinderella of the industry is at present sitting by the fire of the sales department.

Symposium on Southern Pulpwood

A symposium on Southern pulpwood will be held at the technical meeting of the Southern Paper Festival, Tuesday afternoon, April 18, in Savannah. The meeting is sponsored by the Southern States Pulp and Paper Club.

I. F. Eldredge, director of the U. S. Forest Survey; Frank Heyward of the Southern Pulpwood Conservation Association and Carl Swenning of the Mead Corporation will participate in this symposium. Captain Eldredge will discuss the forest resources of the South bringing in new pertinent data on timber stands and growth. These data will be taken from the latest compilations of the Survey and will represent the latest and most complete information on the forest resources of the south. Mr. Heyward will discuss certain phases of the management for pulpwood of the Southern timber lands. Mr. Swenning will discuss the practical problems of pulpwood procurement. The three papers will present a comprehensive picture of the Southern pulpwood situation. This symposium has been planned because of the expected attendance at the meeting of both foresters and representatives from the pulp and paper industry. A paper on conditioning water for the paper mills will be given just before the sumposium by Eskel Nordell of the Permutit Company. Charles Carpenter will preside during the meeting.

Preceeding the technical meeting there will be the annual luncheon of the Southern States Pulp and Paper Club. D. G. Moon, president of the Club, will act as toastmaster. The principal speaker will be D. Clark Everest, president of the American Pulp and Paper Association. F. T. Jamison, president, National Paper Trade Association will make a few remarks. R. G. Macdonald, secretary of TAPPI, will be present.

Following the technical session will be held the annual meeting of the Southern States Pulp and Paper Club. At this time plans will be laid for the coming meetings. Vice-Chairman of the club, R. C. Richter, of Jacksonville and secretary-treasurer, O. W. A. Rodowski of Savannah, will officiate.

World Production of News Print Paper–1938

By R. S. Kellogg, Sec. News Print Service Bureau

Some 7½ million tons of newsprint paper were made throughout the world in 1938. This was a decrease of 1,472,000 tons or 16 per cent from the peak of 8,982,000 tons produced in 1937. It was also the heaviest decrease in a single year of record in the industry.

Canada supplied 35 percent of last year's output of newsprint, Great Britain 13 percent and the United States 11 percent. Production in Germany, Finland and Japan was approximately of the same rank, while France came in midway between Japan and Sweden. Only Japan, Russia and Italy made new high figures in news print manufacture in 1938. In Japan a production of 429,000 tons was 16,000 tons more than the previous high mark reached in 1937, while the output of 234,000 tons in Russia last year was 17,000 tons above the previous record made in 1936. Italian production of 77,000 tons was 11,000 tons more than the previous year. On the other hand Finland, with only 2,000 tons less news print last year than in 1937, was much ahead of the production in any other prior year.

The biggest decrease in news print production in 1938 was in Canada, where it amounted to 1,015,000 tons or 28 per cent from the record figure of 3,645,000 tons set up in 1937. Great Britain's output last year was 8 per cent less than in 1937. However, the production of news print paper in Great Britain had been gradually increasing for many years up to 1937, and the 1938 decrease was less than in a number of other countries. The 820,000 tons of news print made in the United States was 13 per cent less than in 1937 and the smallest of any time in 35 years.

Detailed figures by countries during the past 11 years are given in the sub-joined table. Their compilation has been made possible through reports direct to the News Print Service Bureau, the helpful assistance of foreign correspondents and of the Bureau of Foreign and Domestic Commerce in Washington. For well-known reasons, no reports were obtained upon news print production in Austria, Czechoslovakia and Spain.

Hawthorne Employees To Hold Election

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 12, 1939—The National Labor Relations Board has announced that an election would be held within 15 days among employees of the Hawthorne Paper Company, Kalamazoo, Mich., to determine whether or not they desire to be represented by United Paper Mill Workers, Local Industrial Union 398, affiliated with the Committee for Industrial Organizations.

The poll will be conducted among all hourly production and maintenance employees, consisting of workers in the power house, maintenance department, beater room, machine room, cutter room, finishing room, rag room, and all workers engaged in the finishing processes, employees commonly known as roustabouts or the bull-gang, watchmen and a janitor. Excluded are office help and foremen who are engaged in supervisory activities.

The parties agreed at a public hearing held on the matter that the representation question could best be resolved by a secret ballot election.

The board has also ordered the Brown Paper Mill, Monroe, La., to disestablish Brown Paper Mill Employees Association as a collective bargaining agency, and to stop interfering with any labor organization of its employees.

At the same time, the board dismissed an unfair labor practice complaint that the company had discriminatorily laid-off or discharged four employees. The board found that the employees were laid-off or discharged for cause.

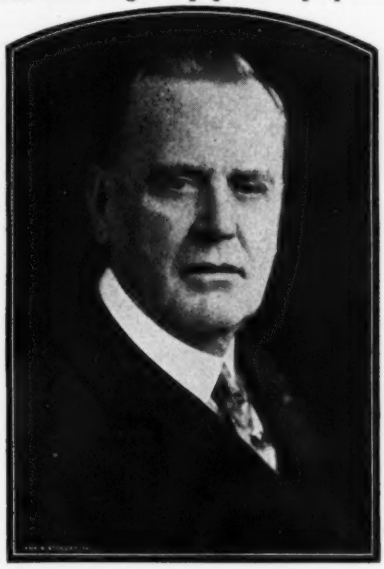
WORLD PRODUCTION OF NEWS PRINT PAPER 1928—1938
(THOUSAND SHORT TONS)

Country	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928	11-Year Average	Country
Canada	2,625	3,645	3,190	2,753	2,599	2,017	1,914	2,221	2,504	2,729	2,381	2,598	Canada
Great Britain	954	1,033	1,004	970	940	830	790	719	608	637	646	830	Great Britain
United States	820	946	921	912	957	946	1,009	1,157	1,282	1,392	1,418	1,069	United States
Germany	467	521	525	464	446	412	450	540	590	623	600	513	Germany
Finland	457	459	402	329	316	285	254	241	223	217	214	309	Finland
Japan	429	413	384	368	344	304	272	258	285	286	267	328	Japan
France	347	424	331	358	353	335	275	243	240	210	136	296	France
Sweden	278	303	282	298	272	266	257	265	240	275	234	270	Sweden
Newfoundland	268	353	328	336	316	271	272	295	287	256	231	292	Newfoundland
Russia	234	192	217	193	190	135(?)	125(?)	100(?)	90(?)	48(?)	7(?)	139(?)	Russia
Norway	188	212	200	182	155	167	200	104	202	189	198	182	Norway
Netherlands	105	106	95	92	92	87	85	79	84	77	76	90	Netherlands
Italy	77	66	69	76	68	72	74	69	69	52	45	67	Italy
Austria	55(?)	62	57	50	50	50	53	62	64	62	57	57	Austria
Czechoslovakia	48(?)	54	46	41	37	38	40	42	44	47	45	44	Czechoslovakia
Switzerland	46	50	44	45	39	45(?)	45	49	47	48	40	45	Switzerland
Belgium	39	57	53	48	51	39	40	44	50	57	50	48	Belgium
Poland	37	44	32	34	32	23	23	27	27	23	20	29	Poland
Chile	12	2	7	6	6	....	....	....	....	....	....	3	Chile
Latvia	9	8	7	6	5	5	5	3	4	4	3	5	Latvia
Estonia	6	7	7	4	6	6	6	17	29	27	20	12	Estonia
Hungary	5	4	....	....	....	....	....	....	....	....	....	....	Hungary
Bulgaria	2	1	....	....	....	....	....	....	....	....	....	....	Bulgaria
Lithuania	2	2	....	....	....	....	....	....	....	....	....	....	Lithuania
Spain	....(?)	18(?)	18(?)	42	42	65(?)	65	62	32	30	26	37(?)	Spain
Mexico	....	....	....	20	20	16	13	15	14	19	17	12	Mexico
Denmark	....	....	....	1	6	7	9	10	10	11	16	6	Denmark
Total	7,510	8,982	8,219	7,628	7,342	6,421	6,276	6,622	7,025	7,319	6,747	7,281	Total

Obituary

Edward Benton Fritz

Edward Benton Fritz, president of Fritz Publications, Inc., Chicago, died at his home, 6801 Crandon avenue, Chicago, from a heart ailment on Monday, April 3, 1939. Mr. Fritz was born in Boonsboro, Md., March 2, 1869, where he was educated in the public schools and learned the printing trade. For more than twenty years, he was western representative of L. D. Post's *Paper Mill and Wood Pulp News*, a New York weekly paper, and as such gained an intimate knowledge of paper and pulp mill problems and widened his acquaintanceship among the people of that industry.



EDWARD BENTON FRITZ

In 1919, Mr. Fritz established a monthly educational magazine named *The Paper Industry*, and later started the annual *Paper and Pulp Mill Catalogue*. Another monthly magazine known as *Paper World* was subsequently established but this was soon merged with the other paper, and now bears the title of *The Paper Industry and Paper World*.

Mr. Fritz took an active interest in promoting safety and under the direction of the National Safety Council inaugurated an annual safety contest among paper and pulp mills of United States and Canada. For many years he has awarded the major trophy to the mill that made the best safety record.

Mr. Fritz's devotion to the field of pulp and paper manufacture led him to invent a machine for refining paper pulp known as the Fritz hydrator, a number of which are now in operation in paper mills.

While Mr. Fritz resided in Chicago to be near his publication office, he maintained a summer residence in Marshall, Mich., where farming and gardening were his avocations. He was a member of the Masonic bodies in Marshall, Mich., and of Medinah Temple, A.A.O.N.M.S., Chicago. He was also a member of the Lake Shore Athletic Club and the Chicago Federated Advertising Club.

He leaves a devoted family consisting of his widow, Mrs. Annie C. L. Fritz, treasurer of the publication business, a brother Charles W. Fritz of Savanna, Illinois, two children, Mrs. Virginia Fritz Dowd and Wayne H. Fritz of Chicago, and two grandchildren, Luteel Kathryn Fritz and Charles Edward Dowd. Mr. A. Scott Dowd, son-in-law, is vice-president and general manager of the publication business.

Service was held at Lawrence Funeral Parlors, 7509 Stony Island avenue, Chicago, on Tuesday evening, April 4 at eight o'clock. The body was then taken to Marshall, Mich., where in Kelser and Moore's Funeral Home the Knights Templar service was rendered by Marshall Commandery, No. 17, K. T. Interment was at Oakridge Cemetery, Marshall.

Lawrence "Larry" Lynd

KALAMAZOO, Mich., April 10, 1939 — Lawrence "Larry" Lynd, Midwest Representative for R. T. Vanderbilt Company Incorporated, was fatally injured in a grade crossing accident near Cheboygan, Mich., on March 30, 1939. Mr. Lynd was 46 years of age, born December 10, 1892 in New Richmand, Quebec, and was married May 11, 1929 to Miss Gertrude Lacy of Renfrew, Ontario, who survives him.

He was gifted with an outstanding personality and his friends in the paper industry and out, were legion His physique and genial nature never failed to make a favorable impression upon those whom he contacted, and these qualities, coupled with his remarkable knowledge of his product and acquaintance with the manufacturing operations in the paper industry, endeared him to all who knew him.

Mr. Lynd was an active member of the TAPPI, also holding memberships in the Park Club, Kalamazoo Country Club, Gull Lake Country Club, Knights of Columbus, and St. Augustine's Church. His funeral was held at the latter, where requiem high mass was sung in his memory.

Surviving him besides the widow, are his mother, Mrs. Anna Hughes Lynd of New Richmond, Quebec; two brothers, Edgar Lynd of New Richmond, Lloyd Lynd of Kalamazoo; two sisters, Mrs. W. P. Burns, Campbellton, New Brunswick, and Miss Florence Lynd, New York City.

The funeral services were largely attended, many friends and relatives from out of town being present.

Bryan J. Milroy

Bryan J. Milroy, well known in the paper industry, died as the result of an accident March 25 at East Pepperell, Mass.

He was born in Gasport, N. Y., August 3, 1868, the son of the late John and Catherine Milroy of Batavia, Ill. He entered the paper manufacturing business at the age of 14 years and worked in many mills throughout the country before coming to Pepperell 20 years ago. He came here to work in the Nashua River Paper Company. For many years before coming here he was superintendent of the Orono Pulp and Paper Company in Orono, Maine, and before that had been superintendent in Dexter, N. Y., and Augusta, Maine.

Towns and cities where the paper industry had claimed his attention included Cloquet, Minn., Kalamazoo, Mich., South Bend, Ind., Steubenville, Ohio, Little Falls, Minn., Ladysmith, Wis., Roanoke, N. C., and Manchester, England.

He was married June 8, 1901 to Stella I. Love of Little Falls, Minn.

He is survived by his widow, three sons, Henry of Pepperell, Edward and William of Bridgeport, Conn., and three daughters, Mrs. John Fouhey of Boston, Catherine of Pepperell and Stella of Bridgeport, Conn.

Ambrose B. Massa

Ambrose B. Massa, president of the A. B. Massa Paper Corporation, New York, since 1922, died April 1 at St. Mary's Hospital, Brooklyn, N. Y. at the age of 83.

Mr. Massa was born in Genoa, Italy, April 29, 1855. He same to this country about 1880 as a young man and spent his entire life from that time in the paper industry. His first connection was with the Peyton Paper Company. Later he became associated with the Gatti McQuade Company, where he spent the major portion of his business career. When this company was dissolved in 1922, he became the president of the present A. B. Massa Paper Corporation with executive offices at 358 Fifth avenue, New York.

For the past several years he had gradually relinquished all of his management duties to his daughter, Alys B. Massa, who had been active with him for a long period of time. She will continue management of the business.

E. G. Alshuler

E. G. Alshuler, 57, president of the Alco Paper Company, New Orleans, La., general paper merchants, died March 30 at Touro infirmary after an illness of about a month. He came to New Orleans to become manager of the Seinsheimer Paper Company, later was instrumental in forming the Columbia Paper Company and two years ago assumed his last post.

A native of Illinois, Mr. Alshuler lived at 3239 Nashville avenue. He is survived by his widow, Mrs. Belle Metzger Alshuler, and two daughters, Mrs. M. E. Burdine and Marjory Alshuler. Last rites were held at the Tharp-Sontheimer-Tharp funeral home, and interment was in Metairie cemetery.

Charles H. Gardner

HOLYOKE, Mass., April 10, 1939 — Charles H. Gardner, for the past 30 years, treasurer of the Taylor-Logan Paper Company, died this afternoon after a short illness. He was a member of the Mt. Nonotuck lodge of Masons and at one time was treasurer. He is survived by his wife, Mrs. Edith (Snell) Gardner, a musician of prominence in this section, two daughters, two sisters, and a brother. The funeral and burial was on Tuesday, April 11.

To Make Paper Cups at Gulfport

A corporation with an authorized capitalization of $50,000 has been formed at Gulfport, Miss., for the erection, equipment and operation of a paper drinking cup factory. H. A. Hooker of Gulfport heads the list of incorporators and announced last week that the plant would start operation some time in May. Plans call for the manufacture of 50,000,000 paper cups annually. The paper to be used will be brought from Wisconsin, he said. Other incorporators are F. B. Hooker and L. K. McIntosh, all of Gulfport.

Indianapolis Demand Steady

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., April 10, 1939—Steadiness seemed to feature the local paper market last week with no undue disturbing influences apparent and demand gradually increasing. In the fine paper field there has been little change with the recent adjustments in sulphite bond prices having no apparent effect on demand. Ledgers and book papers remain firm with demand a trifle better than it has been. Local jobbers are not downhearted and believe the spring season, which is late, will see quite a bit of business. As it is, volume is ahead of the same time last year, which is encouraging. A gradual increase is seen also for writing papers, but prices remain low and there is no immediate indication of a revision upward.

Kraft demand continues good and the volume is considerably better than at this time last year. The local trade is well pleased with the firmness of the market and report that stocks in retail hands are being reduced to make for a more favorable condition.

The newsprint situation remains unsettled. Demand is not what it should be at this season of the year. Prices are being held, however. A change in the weather might be beneficial, according to jobbers.

The container trade seems to be busy. Production is being increased to some extent, part of it going to a gradually broadening consumer base and part of it into warehouse stocks, which have been low for some months. Increase already is noted from the ice cream and dairy trade. Waxed paper demand, notably from the baking industry, is improving and likely will hold good until hot weather. Summer specialties continue to improve in demand even though there has been no warm weather as yet. Dealers appear to be buying in early quantities more readily than they did a year ago.

In the rag market the situation is unchanged, though there has been a stiffening in prices for best quality rags.

New Cord For V-Belts

A new super-flex V-Belt made from Daytex cord has been announced by the Dayton Rubber Manufacturing Company of Dayton, Ohio. This new cord has improved tensile strength lower stretch and, due to interlocked fibers, minimum tendency to become lifeless. The V-Belt runs cooler and stands up under high speed flexing. While retaining these essential features, the cord itself, due to Daytex processing becomes on an average of 22 per cent smaller in diameter.

In the process of manufacturing Daytex cord, a bonding-compacting agent removes the non-essential oils and waxes from the outside of the individual fibres causing the fibres to interlock and form a stronger, yet more compact cord. The super-flex Daytex cord is used in the neutral axis of Dayton cog belts.

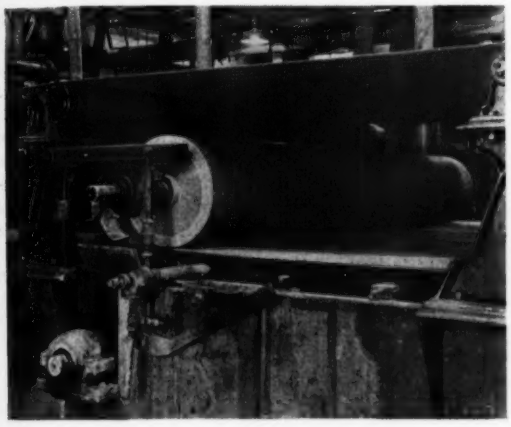
While Daytex cord has lower stretch and minimum tendency to become lifeless, further processing after introducing special rubber compounds, normalizes the cord until the stretch is removed from the belt.

Seven years of rigid laboratory and field tests of over 90 different types and kinds of cord fabric is back of this new cord construction to give Dayton cog-belts longer life, minimum stretch and greater efficiency.

New Rubber Covered Rolls for McEwan Bros. Mill

The illustration presented herewith represents a close-up of one of the complete installation of 21 x 150 inch Tannite rubber covered rolls on the No. 1 and No. 2 cylinder machines at the McEwan Brothers Eden Road Plant at Whippany, N. J. The installation includes eight couch rolls on the No. 2 machine and seven on the slightly smaller No. 1 machine.

Also part of the McEwan improvement program is the installation of a new Stonite top press roll in top second press position, No. 1 machine. This makes the second Stonite roll operating at McEwan Brothers, the first one having been installed in 1931. Stonite is a patented top press roll covering compound manufactured by Stowe-Woodward, Inc., Newton Upper Falls, Mass., who also make Tannite couch rolls.



CLOSE-UP OF COMPLETE INSTALLATION

This mill is unusual in that the present plant covers the site of one of the first paper mills built in this country while the present management is the fourth generation of paper makers in the McEwan family.

New Type of Head Box

An entirely new type of paper machine head box, the Sandy Hill Bertrams Flow Distributor, with adjustable lip inlet has been recently installed on the 110 inch Fourdrinier machine in the Mohawk Paper Mills, Inc., at Cohoes, N. Y. Scientifically designed and patented by Bertrams Limited of Scotland, this distributor corrects the main weaknesses which are inherent in the standard type of flow box by a positive hydraulically balanced distribution.

By virtue of the construction of the new flow distributor at the Cohoes mill, the stock from the screens is evenly distributed before the slice in both velocity and consistency, under all conditions of dilution, speed and output.

The installation at the Mohawk Paper Mills, Inc., gave immediate results in improving the general characteristics of their sheet. Particularly noticeable was the improvement in uniformity of caliper and formation across the entire width of the machine on each of the different grades of paper which this machine is accustomed to run. As a consequence, it is possible to run longer fibered stock for greater folding strength with a good formation.

The Sandy Hill Bertrams Flow Distributor at the Mohawk Paper Mills, Inc., takes up surprisingly little space on the machine. Under ordinary operating conditions it can be designed to take less than half the space of an ordinary head box. Its compactness and simplicity not only make it much easier to clean but also allow color changes to be made with minimum losses.

The new flow distributor is built by the Sandy Hill Iron and Brass Works of Hudson Falls, N. Y.

L. F. Baumann Leaves Howland Bag Co.

DEXTER, N. Y., April 10, 1939—Announcement is made here of the resignation of L. F. Baumann as superintendent of the Howland Bag and Paper Company which is affiliated with the Dexter Sulphite Pulp and Paper Company in the operation of its paper bag plant. He had served in that capacity for the past fifteen years. Early this week he left here to become connected with the Standard Bag Corporation, of New York City, and it is understood that he will serve as general manager of the Chicago and Brooklyn branches. Mr. Baumann will also supervise the opening of a new bag plant for the company at Norfolk, Va., in the near future. He will be succeeded here by I. H. Fisher, who has been employed by the company for several years. However, it has not yet been definitely decided when the bag factory will be ready for operation.

No Production of Newsprint in China

There was no domestic production of newsprint paper on a commercial scale in China during 1938. The construction of the projected newsprint mill at Wenchow was indefinitely postponed owing to the disrupted conditions resulting from the Sino-Japanese hostilities.

Reports from the Consulate General at Canton indicated that the Kwantung Provincial Paper Mill, which was producing experimental lots of newsprint in the early summer months, last year, expected to start regular production in August, but the date for the anticipated commencement of commercial production later was announced as October 1, 1938, and reports describing the capture of Canton by the Japanese in late October stated that the paper mill, among other property, was destroyed by fire and bombing.

United Kingdom's Paper Trade Declines

WASHINGTON, D. C., April 10, 1939—Foreign trade in the United Kingdom in paper and paper products during the first 9 months of 1938 showed an appreciable decrease compared with the corresponding period of 1937. The decline in imports of paper into the United Kingdom is shown in recently issued foreign trade statistics. Total imports of all kinds during the first 9 months of 1938 were 759,710 long tons, valued at approximately $53,890,000, as compared with 934,615 tons valued at close to $60,000,000 in the same period of 1937. Exports of British papers also fell off during 1938. In the period January 1 to September 30, 1938, only 127,583 tons valued at $25,344,000, were exported as against 162,330 tons valued at $29,405,000 during the corresponding period in 1937.

De Laval Priming Equipment

The starting and operation of centrifugal pumps would be simplified if such pumps could always be located sufficiently below the source of supply so that they would fill by gravity, with only a simple air vent. Except in a few cases, this is not practicable, by reason of natural grades, cost and difficulty of building and water-proofing underground pits, either dry or wet, difficulty in keeping dry pits drained, danger of wet pits filling up, and the difficulty in upkeep of a submerged pump. It is generally necessary, therefore, to locate the pump above the source of supply, which, while it facilitates overhauling and maintenance, introduces the problem of filling the pump with liquid before starting, keeping it filled, and insuring that priming, if lost, can promptly and certainly be re-established and the pump put back into operation.

With the system developed by the De Laval Steam Turbine Company, Trenton, N. J., the water level in the suction space is raised above the center of the pump when the pump is initially put into service, which generally takes from one to five minutes, depending upon the length and size of the suction piping. Thereafter, the entire suction line and the pump casing are normally kept full of fluid, so that discharge begins immediately the motor is started, while if for any reason the priming should be lost the pump motor is at once shut down until the water level has again been raised above the pump suction opening.

The application of this system does not affect the construction or normal operation of the pump itself, further than that each suction bell of the pump is arranged for the attachment of a pair of concentric pipes. The capacity-head characteristic, the efficiency, and the required horsepower of the pump remain unchanged and as before.

A priming chamber, mounted above and on the pump casing, contains, or is connected to, an air evacuating device, consisting ordinarily of a simple water, air or steam ejector drawing from the priming chamber through a check valve and discharging to waste at some convenient point. Two pairs of small pipes, one known as the "wet" pipe and the other (located inside the first pipe) as the "dry" pipe, connect the priming chamber to each of the suction bells of the pump. In addition to these parts, the pump discharge line has the usual check valve and gate or other shut-off valve.

When the ejector is started, air is withdrawn from the priming chamber, the pump casing and the suction line, and the water rises through the latter, filling the pump and eventually passing up through the wet pipe and rising in the priming chamber. The starting and stopping of the ejector is controlled by a valve operated by a solenoid energized from an electrical device which responds to the water level with the priming chamber, this same device also controlling the starting and stopping of the motor driving the main pump.

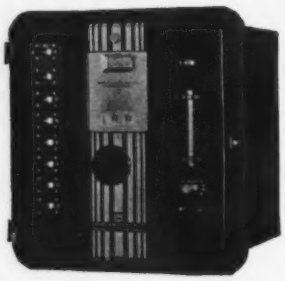
The governing impulses originate from two electrodes which enter through the top wall of the priming chamber with insulating bushings, similar to spark plugs, and terminate at different levels in the priming chamber.

In most cases, once the system has been primed, the water level in the priming chamber never falls below the lower electrode so long as the pump continues in operation, since most of the air in-leakage is carried through the pump with the water. Some may pass from the suction chamber to the vacuum space of the priming chamber, but up to a certain amount the pump can withdraw this incoming air through the dry pipe without bringing into action the eductor, which is called upon only to prime the pump initially and to maintain the elevated suction grade during intervals when the pump is shut down. After the initial evacuation of the suction line, the eductor does not have to operate unless the pump is shut down for a considerable period, and then only for a few seconds at a time whenever in-leaking air accumulates in the priming chamber. This is an important feature, as it greatly reduces the cost of operating this system.

Where the main pump can, without danger, be operated dry the De Laval submerged suction priming equipment may be arranged to prime the pump while running, requiring only a slight change in the electrical and sealing connections. In some cases, with belt or engine drive, De Laval pumps are so equipped that they can operate unprimed and without injury during the time required for the submerged-suction priming system to remove the air and to elevate the suction water level above the pump suction. This feature is valuable where the pumps are driven by synchronous motors with a limited "pull-in" torque.

New Temperature Indicator

Ample space for toggle-type switches, for connecting any one of a number of couples to the measuring circuit, is provided in a new temperature indicator made by the Leeds and Northrup Company, 4934 Stenton avenue, Philadelphia, Pa. Installed wherever convenient, it enables an operator to measure temperatures of near or distant couples with equal reliability, by simple turning a knob, until a pointer comes to zero, and reading a temperature scale.

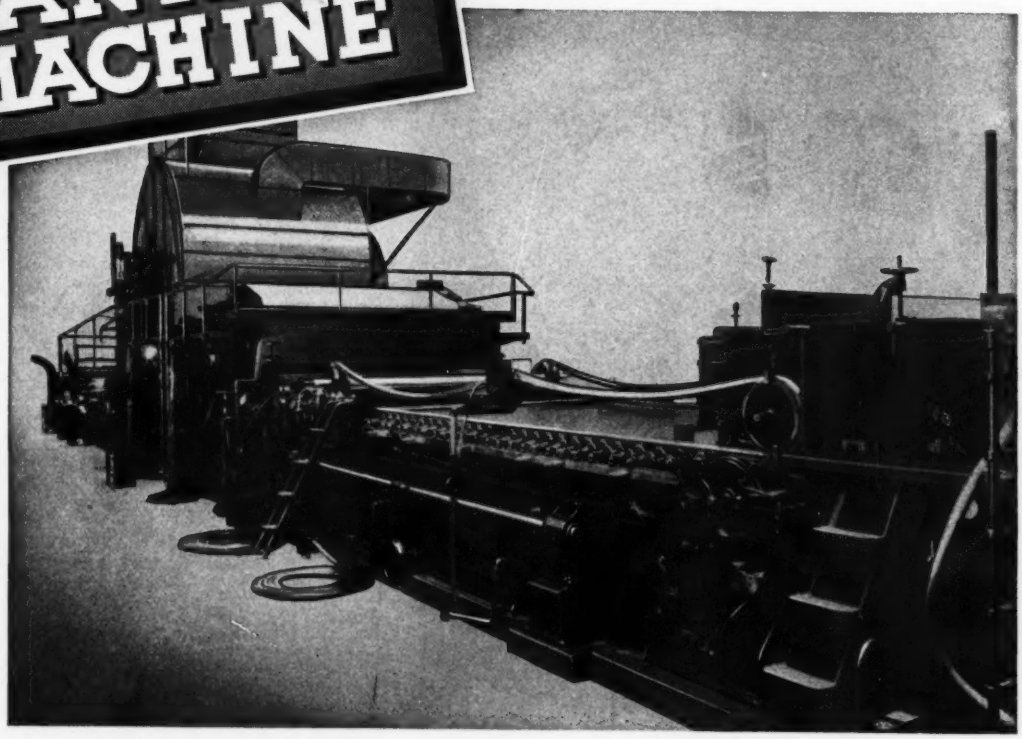


Use of a potentiometer measuring circuit, hand-standardized, but with automatic reference-junction compensation, eliminates uncertainties due to circuit-resistance variables. Scale is practically uniform and equally accurate throughout, and can be calibrated for single or double range, the latter for use with similar or different couples. Built-in terminals, check key and mercury thermometer can be included for checking with a portable indicator.

The rigid metal case mounts flush in panel, but can be equipped with hangers for surface mounting. The galvanometer is a sturdy replaceable unit. The only maintenance is occasional dry cell replacement. Warning that dry cell must be renewed is given when a red disc appears above the indicator scale.

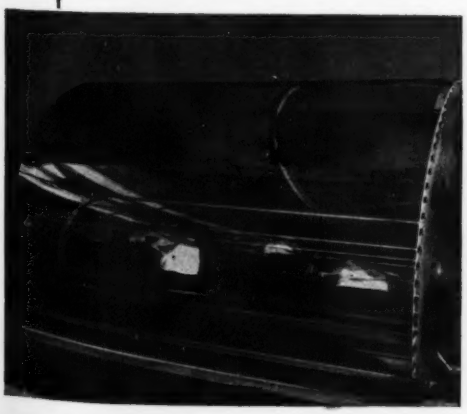
Separate selector switches can be used external to the indicator, if desired, or space for additional self-contained toggle-type switches may be obtained by assembling the indicator (with case removed) in a cabinet similar to that of the Micromax strip-chart recorder.

THE Beloit YANKEE MACHINE



● **The Beloit Yankee Machine furnishes an economical easy means of diversification. No other machine has the all-around adaptability to fit the needs of mills making specialty papers, both light and heavy weights.**

The machine is provided with all the latest features: Removable Fourdrinier ...High Speed Super Shake...Suction Rolls...High Pressure Dryer...Hypoid Drive, etc.



Beloit has developed a special alloy metal and special grinding and polishing process to produce the close grained, hard mirror finish shown in this photograph. This is a result of Beloit's many years of experience in building practically all the Yankee machines in this country.

Beloit has also recently developed a high pressure Yankee dryer to meet the demand for maximum production.

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Pacific TAPPI Meets at Camas

The Pacific Section of the Technical Association of the Pulp and Paper Industry met at the Crown-Willamette Inn, Camas, Wash. on Tuesday evening, April 4, 1939. N. W. Coster of the Soundview Pulp Company president as chairman.

B. W. Rowland of the Institute of Paper Chemistry was present and made a few remarks. W. R. Barber of the Crown-Zellerbach Corporation offered introductory comments concerning the Shibley Award which is to be made in honor of the late Kenneth Shibley to the member presenting an orginal paper in accordance with the adopted specifications.

All the papers presented were in competition for the Shibley Award. They were as follows:

"Various Percentages and Beating of Sulphite Pulp in Mixtures ith Groundwood Pulp for Newsprint" by John H. Bardsley, chemical engineer, Technical Dept., Powell River Paper Company, Ltd., Powell River, B. C.

"A Discussion of the Operation of Photo-Electric Consistency Controllers" by L. A. Wendt, Pulp Division, Weyerhaeuser Timber Company, Everett, Wash.

"A New Method of Pulp Testing Control—The Morden Tester" by Claud Christiansen, Technical Dept., Crown Willamette Paper Company Div., Crown-Zellerbach Corporation, Camas, Wash.

Those present included: Jerry Alcorn, Leslie Anderson, C. E. Ackley, D. B. Armstrong, W. M. Bain, John H. Bardsley, W. R. Barber, Chester Beals, C. H. Belvin, A. S. Boag, J. E. Brown, Richard S. Buckley, A. M. Cadigan, G. W. Charters, Claud Christiansen, N. W. Coster, D. B. Davies, C. J. Dernbach, O. T. Defieux, A. E. Erickson, M. L. Edwards, Clarence Enghouse, Carl Fahlstrom, Frank Fales, Bert W. Farnes, F. W. Flynn, Dr. Leo Friedman, Harry Fromong, G. H. Galloway, William Gibson, Harry Glenn, T. W. Grant, R. B. Haight, Kenneth B. Hall, D. Hamilton, Jan Haugerod, J. A. Harris, Dr. John E. Hart, John E. Hassler, W. H. Haverman, S. Hazelquist, W. F. Holzer, H. R. Heuer, L. E. Hill, W. S. Hodges, George K. Horton, J. H. Hull, Fred G. Hurst, James B. Hyde, W. F. Hynes, W. C. Jacoby, Joe G. Jenkins, L. T. Johnson, Lester M. Johnson, Herman Junge, W. A. Kelly, Frank G. Keuss, Eugene Kinnaman, Robt. M. Kuhn, Clyde Leiser, Clyde E. Laver, D. K. MacBain, R. W. Martig, R. V. Maier, A. M. Mears, J. S. Mears, Otto Michaelis, H. Norman Miller, Paul V. Millard, R. G. Mispley, T. H. Moran, O. P. Morgan, E. A. Morton, Charles A. Newhall, Fred Nicholson, Robert H. Noyes, Jr., F. A. Olmsted, A. W. Olson, H. E. Ostenson, Frederic M. Pape, E. T. Parker, Jr., Virgil Peters, H. T. Peterson, Marvin M. Peterson, H. Prelinger, W. H. Rambo, H. A. Rehnberg, Edward D. Rich, H. H. Richmond, R. E. Richmond, C. B. Roberts, H. K. Roberts, B. W. Rowland, H. L. Rudow, A. Rubbell, Rex. H. Russell, Jack V. Savage, B. W. Sawyer, Harlan Scott, W. J. Stott, Fred Shaneman, C. Sholdebrand, D. L. Shirley, Glen W. Smith, C. F. Stevey, Franz Sturm, F. F. Sullivan, Virgil M. Sutherling, E. H. Tidland, V. L. Tipka, Cecil Triplett, R. M. True, W. M. Van Arnam, M. L. Veatch, H. A. Vernet, Harold C. Wall, L. H. Wear, Wm. T. Webster, Bernhardt Weidenbaum, Fred J. Weleber, L. A. Wendt, R. S. Wertheimer, Rex L. West, Forrest E. Williams, James A. Wilson, A. D. Wood, Edward P. Wood and J. L. Wright.

To Investigate Wood Pulp Dumping

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 12, 1939—The Bureau of Customs is making an investigation of the alleged dumping of wood pulp on the United States market from foreign countries. In this connection Commissioner of Customs J. H. Moyle has sent the following communication to Representative Martin F. Smith of Washington explanatory of this situation:

"The provisions of section 202 of the Antidumping Act to which you referred provide for the imposition of a special dumping duty equal to the amount by which the foreign market value or, in the absence of such value, the cost of production of imported merchandise covered by a finding of dumping exceeds the purchase price or the exporter's sales price of such merchandise. The provisions of section 201 (a) of the Antidumping Act require that before the Secretary of the Treasury may issue a finding of dumping it is necessary to establish (1) than an industry in the United States is being or is likely to be injured or is prevented from being established by reason of the importation into the United States of a class or kind of foreign merchandise and (2) that merchandise of such class or kind is being sold or is likely to be sold in the United States at less than its fair value, within the contemplation of article 789 of the Customs Regulations of 1937.

"The Bureau of Customs on March 25, 1939, addressed communications to the appraisers of merchandise at several principal ports in the United States in an effort to determine whether wood pulp from foreign countries has been or is being imported at so-called dumping prices. There are being transmitted to the appraising officers of customs today (March 31) photostatic copies of a complaint dated March 20, 1939, from the United States Pulp Producers Association, 122 East 42nd street, New York, N. Y., concerning the alleged dumping of German wood pulp in order that the appraising officers may give consideration to the allegations contained therein."

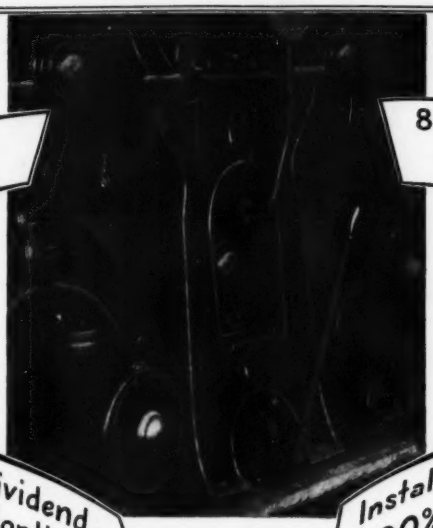
W. B. Hadley Goes With Sutherland

KALAMAZOO, Mich., April 11, 1939—Walter B. Hadley, production manager of the Detroit and Kalamazoo plants of the Detroit Paper Products Corporation, has resigned from that company and is now associated with the Sutherland Paper Company in Kalamazoo.

Mr. Hadley is a member of the Board of Directors of the Detroit Corporation and will continue to serve in that capacity.

Greene, Tweed & Co. Move

Greene, Tweed & Co., manufacturers of specialized packings for the pulp and paper industries, will be located at 101 Park Avenue, New York City, after May 1. After 33 years of occupancy of the premises at 109 Duane street, New York City this old and successful company is locating in new and modern offices. Greene, Tweed & Co. are manufacturers of packing, well and favorably known to pulp and paper mills under the brand names of Palmetto, Cutno. Super Cutno and Palco.



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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Financing and Operation of Pulp and Paper Mills

General Construction News

Charlotte, N. C.—The Dillard Paper Company, Inc., 518 South Ashe street, Greensboro, N. C., general paper products, has leased a building at Oates and West Sixth streets, Charlotte, and will remodel and equip for new storage and distributing branch to serve that area. Work will be placed under way at once, with operations scheduled to begin at the new branch early this spring. F. S. Flynn is company manager at Charlotte.

Detroit, Mich.—The Detroit Sulphite Pulp and Paper Company, 9125 West Jefferson street, manufacturer of bristol, bond, tissue and other paper specialties, has work in progress on new addition to mill, recently referred to in these columns, and will push construction to early completion. It will be one-story, 100 x 100 feet, reported to cost approximately $80,000, including equipment. The W. C. J. Kaufmann Company, 10610 Shoemaker street, Detroit, is general contractor.

Allegan, Mich.—The Michigan Moulded Fibre Products Company, recently organized by G. A. Sporre, Evanston, Ill., and associates, with capital of 250 shares of stock, no par value, is planning early operation of a mill at Allegan for the production of a line of fiber products. Facilities and equipment will be provided for sizable output.

Pearisburg, Va.—The Celanese Corporation of America, Inc., 190 Madison avenue, New York, N. Y., manufacturer of cellulose rayon products, has awarded general contract to the Hughes-Foulkrod Company, Schaff Building, Philadelphia, Pa., for erection of initial units of proposed new mill at Pearisburg, previously noted in these columns, and work is scheduled to be placed under way at once. Company has a tract of about 1200 acres of land at location noted. Plant will consist of two main production units, each three-story, 270 x 452 feet, and four other one and multi-story structures, including power house and pumping station. It is reported to cost about $5,000,000, with machinery. Company proposes to construct additional buildings at a later date. Machinery and equipment will be provided for large capacity. Aaron Schwartz is company engineer in charge of the project.

Newark, N. J.—The Central Paper Company, 416-20 Washington street, commercial paper goods, has purchased the building at location noted, heretofore occupied under lease with the Firemen's Insurance Company, and will develop for permanent location for business.

Dayton, Ohio—The Reynolds & Reynolds Company, Washington and Dudley streets, manufacturer of paper specialties, has work under way on expansion at plant, for which a number of separate contracts recently were awarded for different features of work. A former power plant building is being remodeled and improved, and will be equipped for expansion in storage and distributing department at plant. Extensions and improvements are being made in the press division and other production departments, to provide for enlarged output. The Forrest Longstreth Company, Dayton, has the award for structural work. Entire project will cost close to $75,000.

Kansas City, Kan.—The Agar Manufacturing Corporation, Thomas street, Whippany, N. J., manufacturer of corrugated boxes and containers, has begun construction of new branch plant at Kansas City, previously referred to in these columns, and will have ready for operation early in the fall. It will comprise three main units, each one-story, 150 x 400 feet, 60 x 320 feet, and 150 x 400 feet, the first two noted to be used for production service, and latter structure for storage and distribution. A boiler house will be built, 40 x 60 feet, as well as office building, 40 x 102 feet. Erection will be carried out by the Fogel Construction Company, Reliance Building, Kansas City, Mo. New plant is reported to cost approximately $185,000, including machinery and equipment, which will provide for large capacity.

Thorold, Ont.—The Ontario Paper Company, Ltd., manufacturer of newsprint, wrapping papers, etc., has preliminary plans under way for new addition to local mill on Allenburg road, to be one-story, reported to cost close to $150,000, with equipment. It is proposed to begin work on unit in near future. Plans will be drawn by company engineer.

Toronto, Ont.—W. H. Austill & Associates, Ltd., Toronto, manufacturer of paper products, has arranged for lease of portion of the industrial building at 1 Phoebe street, totaling about 10,000 square feet of floor space, and will equip and occupy for new local plant for the production of waxed papers, primarily for food product service. Machinery and equipment will be installed for large capacity, estimated to cost close to $30,000. Company will also establish a printing division to handle paper stocks for the trade, following processing operations. The new converting plant will utilize bleached sulphite and kraft paper stocks from Canadian mills. In addition to local trade, it is proposed to develop facilities for handling export account to Great Britain, Australia and South American countries. Operations are scheduled to begin during the spring. W. H. Austill, head of company, will be manager at the plant, where company headquarters will be maintained.

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EDITOR

Ronald G. Macdonald
Editor Technical Section

Lynne M. Lamm
Washington Correspondent

Vol. CVIII New York, April 13, 1939 No. 15

COMING EVENTS IN PAPER INDUSTRY

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Fall Meeting, Syracuse Hotel, Syracuse, N. Y., September 12-14.

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—Second Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION, Annual Convention, Wardman Park Hotel, Washington, D. C. June 13-15.

FIRST ANNUAL SOUTHERN PAPER FESTIVAL, Savannah, Ga. April 16-19.

NATIONAL SAFETY COUNCIL, PAPER AND PULP SECTION, Annual Meeting, Atlantic City, N. J. October 16-20.

PRIVATE SPENDING NEEDED

More private spending and less public expenditures is clearly the need of today. The rate of general business activity, the amount involved is insufficient ment of private funds into productive enterprises. Although government spending or pump priming is of small temporary assistance in stimulating general business activity, the amount involved is insufficient to finance any substantial and permanent recovery. The inadequacy of the "investment for prosperity" theory advocated by President Roosevelt is plainly revealed when the amount expended in public funds to promote business recovery is compared with the total amount of private funds normally invested in any year. If the Federal Government can spend four billion dollars a year to stimulate recovery, private investors can exceed that amount many times.

It is unfortunate that President Roosevelt did not adopt the alternative to public spending and attempt to promote recovery on an investment basis instead of resorting to so-called debt financing. The result of the present unsound policy which calls for heavy taxes to support it, and the restrictions imposed by SEC regulations, are important factors contributing to the relatively low rate of business activity of today. These factors have impeded the flow of speculative capital which is essential to expand established enterprises and create new enterprises. In a statement before the "Monopoly" committee at Washington last January, Dr. Vannevar Bush, president of the Carnegie Institution, told the committee that the capital required for the development of new industries could not be attracted while conditions not conducive to speculative investment continued. "It is very difficult," Dr. Bush asserted, "to secure funds from an individual if, under the conditions of failure he loses 100 per cent, and under conditions of success he gains 15 per cent."

An indication of how enterprise has been impeded by SEC, is revealed in the decline of new private corporate financing. For example, in April of last year new corporate financing amounted to $78,813,361, of which $66,500,000 represented refunding, and $12,313,361 new capital issues.

Another policy of the Administration, that of "easy money", has impeded business recovery. According to a letter sent to National and State banks on March 30 by Jesse H. Jones chairman of the RFC, these institutions were admonished to met all reasonable loan requirements. Mr. Jones said in part: "There is still an insistence that many of the smaller units in business are unable to secure the credit to which they are reasonably entitled. This is evidenced by several bills now pending before Congress to create government intermediate credit banks for business or to provide government insurance to banks on loans to business." Mr. Jones ought to know that bank loans to business have not expanded to more fully meet the needs of business, because of the inability of the banks to see how any profit can be made on the ventures. In his annual report to stockholders, Winthrop W. Aldrich, chairman of the board of the Chase National Bank said in part: "There must be in the first place willing borrowers, since the initiative in loan transactions must come from them. And in the second place the borrowers should be able to repay. Both their willingness to borrow and their ability to repay depend in large part upon the profit to be made of the use of the borrowed funds. Lack of belief in that result is the chief of the psychological factors restraining both borrowers and lenders at this time."

The condition of lagging credit to business and the probability of the continuation of the serious situation is the direct result of the "easy money" policy of the Administration. The crux of the situation appears to have three aspects. First, the restrictions imposed upon banks and other financial institutions makes it difficult for them to invest their funds to secure an adequate return. Second, the possibility that the "easy money" policy may result in a downward revision of money rates and cause losses to institutions which have bought bonds at current prices. Third, the further possibility that interest rates may go so low that investment will be discouraged.

According to the Federal Reserve Bulletin the average yield of government bonds and the highest grade

corporation issues are now the lowest on record. United States Government bonds at the end of February of this year averaged a return of 2.43 per cent, high grade municipal bonds 2.70 per cent, and high grade corporate bonds, 3 per cent. In contrast, the yield on government bonds in 1929 averaged 3.81 per cent; municipal bonds 4.27 per cent; and corporate bonds 5.21 per cent.

What has been termed a "menace to thrift" in low money rates, is also indicated in the present interest rates of 2 per cent paid by savings banks. With the average current yield on government bonds at 2.43 per cent, there is less inducement to thrift than ever before. The current market quotations on approximately eight billion dollars of outstanding direct or guaranteed obligations of the United States Government yield the investor nothing. The policy of "easy money" put into effect five years ago has been carried to such extreme lengths that recent issues of Treasury bills have sold at such small discounts, and in some cases at par or higher, that the purchase yields the buyer no return. With more private spending needed to promote recovery there is also required a more equitable return on the dollar invested in industry and trade.

Summer Paper Courses at Maine

The University of Maine will again conduct a summer course in Chemical Engineering and Pulp and Paper Technology during the six weeks between July 5 and August 12, 1939.

The Chemical Engineering courses include laboratory and lectures, the theory of which is based on chemical engineering equipment, some pieces of which are particularly suited to the pulp and paper industry.

The Pulp and Paper Technology courses include lecture courses in pulp and paper manufacture and laboratory courses in paper making, pulp coloring and bleaching and paper testing. These courses are designed for paper salesman, laboratory helpers, etc., who previously have not had an opportunity to obtain a general scientific understanding of the pulp and paper industry. In addition to class and laboratory work there will be a number of mill visits.

A Copy of the summer session catalogue, which explains courses offered, expenses, etc. may be obtained by addressing Director R. M. Peterson, University of Maine, Orono, Maine, and if interested, early reservations should be made.

Watervliet Mill To Spend $20,000

A $20,000 re-vamping of one of the machines at the Watervliet Paper Company, at Watervliet, Mich., will be started within a few days, George Ferguson, president and general manager, announced last week. He said the plant is now running at capacity.

Tub sizing to be added to one of the plant's paper making machines will make the product more flexible and speed up production somewhat, he explained. The exact extent of alterations to be made has not been decided.

Production Ratio Report

These statistics are based upon paper production reports to the American Paper and Pulp Association.

COMPARATIVE MONTHLY SUMMARIES[1]

Months	1939	1938	1937	1936	1935	1934
January	77.5%	63.9%	90.3%	76.1%	65.8%	.....
February	81.8	68.7	90.1	77.9	70.0	.....
March	83.8	69.6	90.3	76.0	70.5	.....
April	....	68.3	92.1	82.3	70.0	.....
May	....	69.0	90.6	81.6	69.4	.....
June	....	66.0	87.3	80.7	72.3	.....
July	....	72.0	81.8	77.3	64.9	.....
August	....	77.2	82.9	81.5	70.9	.....
September	....	76.3	78.6	80.5	71.9	58.2%
October	....	82.5	73.5	87.6	75.6	64.7
November	....	79.6	61.9	88.0	75.3	61.7
December	....	74.4	54.5	85.9	71.2	59.6
Year Avg.	....	72.3	80.6	81.3	70.5	.....
First 13 weeks.	81.1	67.5	90.2	76.9	68.5	.....

COMPARATIVE WEEKLY SUMMARIES[1]

Current Weeks, 1939		Corresponding Weeks, 1938	
February 25	80.9%	February 26	71.3%
March 4	83.7	March 5	67.8
March 11	84.6	March 12	70.1
March 18	82.2	March 19	69.3
March 25	83.1	March 26	68.5
April 1	85.8	April 2	72.3

The following statistics show the number of mills reporting by ratio groups:

NUMBER OF MILLS REPORTING—CURRENT WEEKS

Ratio Limits	Feb. 25 1939	Mar. 4 1939	Mar. 11 1939	Mar. 18 1939	Mar. 25 1939	April 1 1939
0% to 50%	58	55	59	50	54	40
51% to 100%	249	252	245	246	223	162
Total Mills Reporting	307	307	304	296	277	202

PAPERBOARD OPERATING RATIOS

Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

Year	J. %	F. %	M. %	A. %	M. %	J. %	J. %	A. %	S. %	O. %	N. %	D. %	Year Avg. %
1935	62	68	68	63	61	66	62	67	71	77	71	61	66
1936	62	67	67	70	69	70	69	75	78	82	80	74	72
1937	80	86	86	88	85	77	66	74	69	65	55	45	73
1938	54	60	61	57	58	56	57	66	66	70	65	59	61
1939	60	67	..	..	..	..	..	..	..	..	..	..	..

Week end. Feb. 25, 1939 68% Week end. Mar. 18, 1939 70%
Week end. Mar. 4, 1939 68 Week end. Mar. 25, 1939 73
Week end. Mar. 11, 1939 70 Week end. April 1, 1939 74

[1] Production-capacity ratios are based upon six-day capacity ratings which are adjusted periodically to correspond with the ratings reported by individual companies. Ratios are subject to revision until all reports are received.

Forest Products Lab to Exhibit

The Forest Products Laboratory will be represented at the First Southern Paper Festival, Savannah, Ga., by a group of three exhibit panels. The principal panel in the group will show some of the laboratory's research accomplishments in the utilization of southern woods for paper. The other panels will feature the Laboratory's new low-cost plastic from wood lignin.

The panel dealing with papers shows a number of paper and fiberboards made at the Laboratory from southern woods and, by means of a series of pictures, outlines the paper research facilities available at Madison. The most interesting feature of the panel, however, is a series of publications in which the laboratory has presented the results of experiments showing the adaptability of southern woods for the manufacture of a wide range of pulps and papers. An accompanying chronology, beginning in 1910, records Laboratory early entry and progress in the production of bleached sulphate and sulphite pulps, newsprint, bonds, books, and other papers from southern pines and hardwoods.

Research is conducted on modern lines with up-to-the-minute equipment in the Stamford Research Laboratories of the American Cyanamid Company.

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Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

United States Patents on Papermaking

First Quarter, 1939

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Since, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete; it is also possible that some patents have been included which do not apply to papermaking.

Copies of any of the following patents may be obtained from the U. S. Patent Office, Washington, D. C., by sending ten cents ($0.10) for each patent desired. The number, name of inventor, and title of patent should be given in the request. Personal checks and postage stamps are not accepted. Books of coupons may be purchased for $2.00 or $10.00, good for 20 or 100 patents. Coupon orders do not have to be accompanied by letters of transmittal.

JANUARY 3, 1939

R20,970. Apparatus for imparting stretchability to webs. William Wallace Rowe and Warren A. Morris, assignors to The Paper Service Company, Lockland, Ohio. Original No. 2,034,421, dated March 17, 1936. Application for reissue March 16, 1938. 28 claims. (Cl. 154-30). Corrugating apparatus.

2,142,115. Composition. Martin Eli Cupery, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed March 23, 1937. 21 claims. (Cl. 134-78.6). A composition containing sulphamic acid and certain of its salts used for flameproofing.

2,142,116. Nonfibrous cellulosic structure and method of producing same. Martin Eli Cupery, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed July 21, 1937. 13 claims. (Cl. 91-68). A composition containing sulphamic acid and certain of its salts used for flameproofing.

2,142,143. Envelope making machinery. Abraham Novick, assignor to F. L. Smithe Machine Co., Inc., New York, N. Y. Filed Dec. 7, 1934. 21 claims. (Cl. 271-29). Device for feeding envelope blanks.

2,142,279. Adhesive. Adolf Menger, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Jan. 31, 1934. 19 claims. (Cl. 154-46). The adhesive layer consists essentially of a halogenated polyvinyl halide.

2,142,318. Sheet treating apparatus. Adolph Langsner, assignor to Eugene Dietzgen Co., Chicago, Ill. Filed Feb. 9, 1938. 7 claims. (Cl. 91-51).

2,142,333. Method of treating wood. Thomas Robinson, assignor to Lancaster Processes Inc., New York, N. Y. Filed Dec. 16, 1935. 3 claims. (Cl. 92-6). A method of defibering wood so that the rosin ducts are disrupted and the rosin therein is exposed on the surface of the fibers and treating the fibrous material so produced with a solvent to extract the resins and similar substances therefrom.

2,142,334. Sheet material. Thomas Robinson, assignor to Lancaster Processes Inc., New York, N. Y. Filed April 1, 1937. 5 claims. (Cl. 92-3). A felt-like material of rags, waste papers, and mechanical pulp which is soft, porous, and absorbent, which is strong and pliable, that can be readily impregnated with bitumen.

2,142,397. Method of impregnating a web of fibrous material. Edward Hurst, assignor to United Cotton Products Company, Fall River, Mass. Filed Sept. 19, 1936. 2 claims. (Cl. 91-68).

2,142,471. Reinforced building paper. Thomas J. Fraber, Washington, D. C. Filed Aug. 3, 1936. 3 claims. (Cl. 72-116).

2,142,560. Paper drilling machine. Walter C. Eickman, assignor to Harris-Seybold-Potter Company, Cleveland, Ohio. Filed Oct. 2, 1937. 9 claims. (Cl. 164-86).

2,142,604. Preservation of cellulosic materials. Thomas S. Carswell, assignor to Monsanto Chemical Company, St. Louis, Mo. Filed April 17, 1936. 2 claims. (Cl. 21-4). Impregnation with a cyclohexanone-phenol resin.

2,142,739. Fermentation process of treating sulphite waste liquor. Frederick J. Wallace, assignor to Robeson Process Company, New York, N. Y. Filed Sept. 26, 1936. 4 claims. (Cl. 195-2). Improvement of sulphite waste liquor for tanning purposes by removing carbohydrates therefrom with the production of citrate.

2,142,777. Reel. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed April 25, 1935. 21 claims. (Cl. 242-65). A paper winding machine.

2,142,789. Apparatus for regulating moisture content of materials. Frank E. P. Klages, assignor to The Powers Regulator Company, Chicago, Ill. Filed Jan. 2, 1935. 2 claims. (Cl. 236-1).

2,142,799. Paper cutting or slitting machine. Henry Nicholas, assignor to Graham Paper Company, St. Louis, Mo. Filed May 20, 1937. 15 claims. (Cl. 164-70).

2,142,823. Process and system for treating wastepaper stock. Arno W. Nickerson, White Plains, N. Y., and Emil C. Gildenzopf, York, Pa. Filed June 22, 1935. 3 claims. (Cl. 92-20). Treating waste paper stock in a breaker beater and improving the quality of separation by avoiding breakage of the junk while defibering the paper which can be screened.

JANUARY 10, 1939

2,142,986. Fibrous product. Luther Bishop Arnold, Jr., assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Feb. 13, 1936. 4 claims. (Cl. 91-68). Paper is impregnated with a softening agent, such as a mixture of an aliphatic alcohol and a salt of a sulphated aliphatic alcohol and a waterproofing agent of an aqueous emulsion containing deacetylated chitin.

2,142,987. Recovery of sulphur dioxide from gases. Raymond F. Bacon, Bronxville, and Rocco Fanelli, New Rochelle, N. Y.; said Fanelli assignor to said Bacon. Filed Dec. 24, 1935. 3 claims. (Cl. 23-178). The gases are treated with an aqueous liquid containing in solution a free weak acid and a salt of a weak acid capable of reacting with sulphurous acid to regenerate the weak acid and produce a sulphite which decomposes under the influence of heat with the liberation of sulphur dioxide.

2,142,988. Recovery of sulphur dioxide from gases. Raymond F. Bacon, Bronxville, and Rocco Fanelli, New Rochelle, N. Y.; said Fanelli assignor to said Bacon. Filed Dec. 24, 1935. 3 claims. (Cl. 23-178). Gases are treated with an aqueous liquid containing in solution a sulphite and an acid stronger than water and weaker than sulphurous acid to effect absorption of the sulphur dioxide with the production of a bisulphite.

2,143,023. Proten derivative. Frederick M. Meigs, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Jan. 17, 1936. 21 claims. (Cl. 134-20). An acid addition salt of a reaction product of a protein with an aldehyde or ketone and an amine.

2,143,345. Purification of tall oil. Edward M. Frankel and Arthur Pollak, assignors to West Virginia Pulp & Paper Company, New York, N. Y. Filed April 11, 1935. 6 claims. (Cl. 202-53). A method of flash distillation under high vacuum in the absence of steam or other added carrier gas to separate said tall oil into a vapor rich in abietic and fatty acids and a liquid residue rich in pitch.

2,143,406. Paper for security documents and process of manufacture thereof. Stanley Beaumont Chamberlain, assignor to Portals Limited, Whitchurch, Hampshire, England. Filed March 19, 1937. 7 claims. (Cl. 92-40). Laying in the web throughout its length during manufacture a continuous electrically conducting filament.

2,143,497. Method of and apparatus for cleaning wood chips and the like. Sven Rahmberg by Axel Bostrom and Martin Rahmberg, executors and administrators of the estate of said Sven Rahmberg, Wallvik, Sweden. Filed Nov. 19, 1934. 8 claims. (Cl. 209-21). The method consists in tumbling the chips in a rotating hollow screen drum, projecting fluid jets radially from near the axis of the drum toward the inner surface thereof, and projecting fluid jets from near the axis at points adjacent to the ends of the screen obliquely toward the middle of the drum.

2,143,552. Manufacture of paper-makers' wire cloth. Willie Dunstan Theodore Green, assignor to The United Wire Works, Limited, Granton, Edinburgh, Scotland. Filed Sept. 7, 1937. 3 claims. (Cl. 245-8). A method of producing a wire cloth affording ample drainage with increased paper support.

2,143,600. Gummed tape. Ferdinand W. Humphner, assignor to Mid-States Gummed Paper Co., Chicago, Ill. Filed July 29, 1935. 3 claims. (Cl. 154-43). A strip of paper with a layer of water-soluble gum on one side and a cellulose sheet impregnated with rubber on the other.

2,143,682. Identifiable carton board. James Harry Brown, assignor to American Coating Mills, Inc., Elkhart, Ind. Filed Aug. 6, 1936. 1 claim. (Cl. 92-40). Multiply paperboard having its layers bonded by interfelted fibers and including between the front and back layers a layer artificially colored.

2,143,763. Method of making paper boxes. Clarence Lloyd Claff, Randolph, Mass. Filed July 21, 1937. 4 claims. (Cl. 93-36.6). A laminated paper box.

2,143,785. Method of preparing cellulose for acylation. Carl J. Malm, assignor to Eastman Kodak Company, Rochester, N. Y. Filed April 16, 1938. 11 claims. (Cl. 260-101). Method of impregnating cellulose with a mixture of acetic and sulphuric acids containing an organic acid anhydride to destroy the water present.

2,143,803. Process for bleaching raw stock cotton. Edwin P. Sherman, assignor to The Geo. E. Sherman Company, Inc., Brooklyn, N. Y. Filed March 2, 1938. 2 claims. (Cl. 8-108). Cotton, after boiling with caustic soda, is treated with a bath containing soda ash, sodium stearate, sodium hypochlorite, and a buffer at 110° F.

2,143,804. Process for bleaching fibrous cellulose material containing fast-dyed figures. Edwin P. Sherman, assignor to The Geo. E. Sherman Company, Inc., Brooklyn, N. Y. Filed March 2, 1938. 3 claims. (Cl. 8-108). A bath comprising water, sodium stearate, sulphonated oil, and sodium hypochlorite.

2,143,809. Method for sizing photographic paper. John C. Trahey, assignor to Eastman Kodak Company, Rochester, N. Y. Filed March 27, 1937. 5 claims. (Cl. 91-68). Method of removing a predetermined proportion of the air by blast of steam and immediately plunging the paper into a sizing bath.

2,143,831. Synthetic products and process for

making them. George H. Ellis and William H. Schlafge, assignors to The Insulite Company, Minneapolis, Minn. Filed Jan. 2, 1932. 2 claims. (Cl. 92-21). Binding cheap fiberized wood with a vegetable substance as tung oil to form a sheet, then applying heat and pressure.

JANUARY 17, 1939

2,143,840. Paper stock. Fred L. Buchanan and Reynolds Guyer, assignors to Waldorf Paper Products Company, St. Paul, Minn. Filed Feb. 5, 1936. 3 claims. (Cl. 92-39). A facing of sufficient thickness and density and having suitable characteristics to reflect light rays, a body portion of less thickness having a coloring to absorb light rays and a liner capable of reflecting light rays.

2,143,844. Laminated structure. Adrian O. Daller, assignor to Utility Packages, Inc., New York, N. Y. Filed Feb. 9, 1935. 4 claims. (Cl. 154-42). A strip of paper coated with a wax-like film, a flexible strip of transparent cellulosic material having a moistureproof coating with an adhesive of rubber forming a bond between the film and the moistureproof coating.

2,143,855. Alkali cellulose. Shailer L. Bass, assignor to The Dow Chemical Company, Midland, Mich. Filed Oct. 23, 1937. 2 claims. (Cl. 260-233). Preparation of an alkali cellulose adapted to the production of low viscosity water-insoluble cellulose ethers.

2,143,857. Preparation of alkali cellulose. Edgar C. Britton, Walter J. Le Fevre and Earl G. Hallonquist, assignors to The Dow Chemical Company, Midland, Mich. Filed Aug. 20, 1937. 3 claims. (Cl. 260-10). Method of preparing an alkali cellulose for the production of ethylcellulose with a viscosity in the range of 0.15 to 2.0 poises.

2,143,862. Alkali cellulose. William R. Collings, Lee De Pree and Merrill H. Weymouth, assignors to The Dow Chemical Company, Midland, Mich. Filed May 26, 1937. 9 claims. (Cl. 260-10). The alkali cellulose is disintegrated by subjecting a mass thereof to the action of differential speed rollers.

2,143,863. Alkali cellulose. William R. Collings, Lee De Pree and Merrill H. Weymouth, assignors to The Dow Chemical Company, Midland, Mich. Filed May 26, 1937. 3 claims. (Cl. 260-10). Preparation of uniform alkali cellulose adapted for the production of cellulose ethers.

2,143,868. Decalcomania adhesive. Peter D. Dexheimer, assignor to The Glidden Company, Cleveland, Ohio. Filed May 27, 1935. 3 claims. (Cl. 134-23.1). Glue and 6 to 10 per cent of glycerol based on the glue, dissolved in water containing a minor proportion of monobutyl ether of ethylene glycol.

2,143,911. Method of making a cellulosic product. Charles A. Fourness, assignor to Paper Patents Company, Neenah, Wis. Filed Oct. 17, 1935. 2 claims. (Cl. 154-33). An artificial leather from a relatively thin paper impregnated with latex.

2,144,057. Paper feeding machine. Henning Hallstream, assignor to Dexter Folding Company, Pearl River, N. Y. Filed April 21, 1937. 31 claims. (Cl. 271-38). A machine for separating sheets from the top of a pile.

2,144,058. Blank feeding mechanism for paper feeding machines. Henning Hallstream, assignor to Dexter Folding Company, Pearl River, N. Y. Filed Nov. 4, 1937. 6 claims. (Cl. 271-62). A machine for separating sheets of paper.

2,144,271. Composition board and method of making the same Robert G. Quinn, assignor to International Paper Company, New York, N. Y. Filed Aug. 5, 1933. 13 claims. (Cl. 92-21). Fibrous sheet material is rendered toxic by adding a rosin emulsion, zinc sulphate, and arsenious oxide in the order named to the wet pulp.

2,144,283. Mechanism for partially folding containers. Racy D. Bennett, assignor to The American Paper Bottle Company, Toledo, Ohio. Filed Sept. 20, 1937. 13 claims. (Cl. 93-6).

2,144,297. Manufacture of tanning materials. Hermann Noerr and Gustav Mauthe, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Sept. 10, 1935. 20 claims. (Cl. 149-5). A method of utilizing lignosulphonic acid.

2,144,448. Wrapping machine. Robert Roland Brightwell, assignor to Stephano Brothers, Philadelphia, Pa. Filed March 2, 1937. 3 claims. (Cl. 93-2).

2,144,577. Titanium dioxide pigments. Karl Walter Peterson, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankford-on-the-Main, Germany. Filed Aug. 7, 1934. 19 claims. (Cl. 134-58). A metallic fluoride which is difficultly soluble in water is precipitated on a titanium dioxide pigment in an amount between 2 and 50 per cent by weight of the titanium pigment.

JANUARY 24, 1939

2,144,610. Gummed tape. Hans F. Bauer, Jordan V. Bauer, and Don M. Hawley, assignors to Stein, Hall Manufacturing Company, Chicago, Ill. Filed Aug. 22, 1938. 8 claims. (Cl. 91-68). The adhesive consists of a British gum dispersed with urea and glycerol.

2,144,653. Illuminator. John H. Graff, assignor to The Institute of Paper Chemistry, Appleton, Wis. Filed Dec. 24, 1936. 4 claims. (Cl. 88-40). A variable angle illuminator for illuminating the surface of paper for examination of the surface texture.

2,144,686. Roll finishing device. George Wilkins Owens, assignor to West Virginia Pulp & Paper Company, New York, N. Y. Filed Dec. 12, 1935. 3 claims. (Cl. 93-2). Device for finishing paper wrapping on the ends of a hollow cored paper roll.

2,144,756. Process of treating wood pulp to remove pitch. James H. Fritz, assignor to National Oil Products Company, Harrison, N. J. Filed Oct. 14, 1937. 10 claims. (Cl. 92-1). Dissolving pitch in a water-immiscible organic solvent (kerosene), emulsifying, and then removing the emulsified pitch-solvent mixture from the pulp.

2,144,757. Web dispenser mounting. Earl A. Gilling, Frank P. Vaughan and Albert K. Krueger, assignors to Bay West Paper Company, Green Bay, Wis. Filed Feb. 20, 1936. 5 claims. (Cl. 242-55.2).

2,144,764. Box forming system. Ludwig H. Lange and Charles H. Nitsch, assignors to Stokes and Smith Company, Philadelphia, Pa. Filed Sept. 29, 1937. 26 claims. (Cl. 93-54.2).

2,144,770. Paper making machine. William Hulse Millspaugh, assignor to Sandusky Foundry and Machine Co., Sandusky, Ohio. Filed June 3, 1936. 8 claims. (Cl. 92-49). Stationary suction box within the suction roll of the press, so arranged that the fluid tight packing between one side of the suction box and the inner surface of the suction roll is at the inlet of the bite.

2,144,899. Method of manufacturing a tube. John Paul Smith, assignor to The Visking Corporation, Chicago, Ill. Filed Oct. 3, 1935. 6 claims. (Cl. 93-94). Process of manufacturing impregnated tubes.

2,144,900. Method of producing reinforced seamless-matrix tubes. John Paul Smith, assignor to The Visking Corporation, Chicago, Ill. Filed June 22, 1936. 12 claims. (Cl. 93-94).

2,144,919. Apparatus for and method of drying web material. Arthur G. Gautreau, assignor to Andrews and Goodrich, Inc., Dorchester, Mass. Filed June 24, 1937. 7 claims. (Cl. 34-48). Web material is floatingly conveyed through a drying space by a stream of gaseous drying medium, in which currents are established which tend to hold the web from sideway movement.

2,145,048. Machine for making sanitary napkins. Oscar E. Hagen, assignor to International Cellucotton Products Company, Chicago, Ill. Filed Sept. 10, 1936. 14 claims. (Cl. 154-29).

2,145,062. Bleaching of cellulosic materials. Maurice C. Taylor and James F. White, assignors to The Mathieson Alkali Works, Inc., New York, N. Y. Filed April 17, 1930. 6 claims. (Cl. 8-108). An aqueous solution containing a chlorite of a metal of the alkali or alkaline earth metals.

2,145,149. Satin white pigment and process of making same. Lincoln T. Work, New York, N. Y. Filed Feb. 4, 1935. 3 claims. (Cl. 134-58). Method of reacting a solution of clay in sulphuric acid in the presence of the clay residue with hydrated lime.

2,145,151. Method of manufacturing cigarette paper. Roger Braunstein, assignor to Société Anonyme des Anciens Etablissements Braunstein Frères, Paris, France. Filed Feb. 3, 1936. 2 claims. (Cl. 92-21). The paper pulp contains stearic acid and titanium dioxide, the final percentages being 0.8 and 2, respectively.

2,145,195. Adhesive compositions. Hans F. Bauer, Jordan V. Bauer, and Don M. Hawley, assignors to Stein, Hall Manufacturing Company, Chicago, Ill. Filed Oct. 17, 1938. 7 claims. (Cl. 134-23.4). The adhesive contains tapioca, British gum, urea, glycerol, and water.

2,145,226. Movable Fourdrinier suction box assembly. Bernard A. Malkin, assignor to Dominion Engineering Works Limited, Lachine, Quebec, Canada. Filed May 16, 1936. 4 claims. (Cl. 92-51). Each box is suspended from the suction box rails by two horizontally swinging links which serve to impart oscillating motion to the ends of the box as it is moved across the wire.

JANUARY 31, 1939

2,145,334. Method and means for sealing paperboard blanks. Samuel Bergstein, assignor to Edna May Bergstein and Robert Morris Bergstein, Cincinnati, Ohio, as trustees. Filed Sept. 10, 1936. 4 claims. (Cl. 93-1).

2,145,386. End creasing mechanism for bags. Hans A. Bauer, assignor to B. F. Gump Co., Chicago, Ill. Filed Dec. 24, 1936. 11 claims. (Cl. 93-6).

2,145,524. Machine for making wrappers. Frank Parry, assignor to Molins Machine Company, Limited, London, England. Filed June 23, 1937. 14 claims. (Cl. 93-2).

2,145,636. Apparatus for manufacturing transparent cellulose tubes. Lou Scharf, assignor to Riverside Company, New York, N. Y. Filed March 20, 1936. 4 claims. (Cl. 93-82).

2,145,682. Mechanism and method for reinforcing one-piece boxes. Samuel Bergstein, assignor to Edna May Bergstein and Robert Morris Bergstein, trustees, Cincinnati, Ohio. Filed Feb. 11, 1938. 28 claims. (Cl. 93-36).

2,145,815. Zinc sulphide pigment. Donald G. Morrow, assignor to Hercules Powder Company, Wilmington, Del. Filed March 17, 1937. 14 claims. (Cl. 23-135). Zinc sulphide is precipitated from a solution containing ammonia.

FEBRUARY 7, 1939

2,145,851. Apparatus for manufacture of pulp. Arne Johan Arthur Asplund, assignor to Aktiebolaget Defibrator, Stockholm, Sweden. Filed Sept. 19, 1934. 16 claims. (Cl. 92-6). A method for defibrating cellulosic material by rotating abrading means in a current of steam well above atmospheric pressure and means for removing moisture from the material.

2,145,861. Coating or decorating apparatus. Lloyd V. Casto, Detroit, Mich. Filed June 13, 1935. 4 claims. (Cl. 91-45). Method of decorating work blanks by means of a spray gun.

2,145,862. Alkali cellulose. William R. Collings, Lee De Pree and Merrill H. Weymouth, assignors to The Dow Chemical Company, Midland, Mich. Filed May 24, 1937. 9 claims. (Cl. 260-233). Pulp is treated with 60-80 per cent alkali at 55° to 144° C., absorbing from 1.25 to 4 times its weight of alkali solution.

2,145,941. Method of and apparatus for making packages. Daniel E. Maxfield, assignor to Stokes and Smith Company, Summerdale, Pa. Filed April 18, 1938. 14 claims. (Cl. 93-3).

2,146,001. Carton closing machine. Victor G. Williams and Harvey M. Rutter, Toronto, Ontario, Canada, assignor to Delamere & Williams, Limited. Filed Aug. 19, 1936. 17 claims. (Cl. 93-6).

2,146,034. Laminated articles and process of making same. John P. Sermattei, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Feb. 5, 1935. 5 claims. (Cl. 154-40). Use of a nitrocellulose adhesive and solvent plasticizer in laminating materials.

2,146,281. High wet strength paper and process of making such paper. Carl A. Anderson, Whitefield, N. H. Filed Jan. 29, 1936. 2 claims. (Cl. 91-68). Paper is impregnated with glue and glycerol, the sheet dried and the glue air-hardened, and the surface of the sheet is treated with formaldehyde in such a way that it does not penetrate to the interior of the sheet.

2,146,296. Process for preparing wrapping and building material. Ole Heye, Copenhagen, Denmark. Filed Feb. 27, 1936. 2 claims. (Cl. 92-40). Method of coating at least one side of a tensed and filled fabric wtih paper pulp.

2,146,305. Apparatus for coating tubing. Maximilian Paul Link, Los Angeles, Calif. Filed Dec. 24, 1935. 8 claims. (Cl. 91-13).

2,146,308. Method of making packages. Daniel E. Maxfield, assignor to Stokes and Smith Company, Summerdale, Pa. Filed Feb. 15, 1938. 9 claims. (Cl. 93-3).

2,146,407. Machine for forming blanks into cartons. Alfred German Rose, assignor to Rose Brothers (Gainsborough) Limited, Gainsborough, England. Filed Nov. 27, 1937. 5 claims. (Cl. 93-51.1).

2,146,507. Coating machine. Charles W. Mayer and Walter Luecders, Rochester, N. Y.; said Luecders assignor to said Mayer. Filed Dec. 5, 1935. 12 claims. (Cl. 91-18).

2,146,515. Copying paper. Maximilian Paul Schmidt, assignor to Kalle & Co., Aktiengesellschaft. Wiesbaden-Biebrich, Germany. Filed Dec. 8, 1937. 7 claims. (Cl. 282-28). A carbon paper having a dark transfer composition and on its other surface a lighter transfer composition comprising a substance which absorbs ultraviolet light but is stable to light.

2,146,619. Coating flexible sheets. Walter Durgin Bowlby, assignor to Egyptian Lacquer Manufacturing Company, Jersey City, N. J. Filed Nov. 5, 1935. 3 claims. (Cl. 91-68). A paper base coated with nitrocellulose to give a flexible product.

2,146,655. Products obtained from the hydrogenation of lignin in the presence of suitable catalysts. Earl C. Sherrard and Elwin E. Harris, assignors to Henry A. Wallace as Secretary of Agriculture of the U. S. of America. Filed May 10, 1938. 8 claims. (Cl. 260-617). Lignin is hydrogenated with copper chromium oxide at high temperatures and pressures, giving cyclohexane derivatives or with nickel catalyst, giving methanol and a fastflowing thermoplastic material.

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2,146,771. Artificial leather composition. Horace A. Sheesley, assignor to Tufide Products Corporation, Portland, Maine. Filed Oct. 30, 1935. 9 claims. (Cl. 91-68). Wood pulp with a binder of dehydrated latex and blood albumin, tanned in situ.

2,146,791. Roll for jordan type paper pulp refiners. Adam E. Bridge, assignor to The Black-Clawson Company, Hamilton, Ohio. Filed June 22, 1936. 6 claims. (Cl. 92-27). A jordan engine plug having a series of longitudinally extending bars removably placed in a supporting body in outwardly extending slots which are rounded to provide unusual strength at the base of the lugs between the slots.

2,146,808. Vaporizer. George C. Flint, Oak

Park, Ill., assignor to Vapo Systems Equipment Company. Filed Oct. 1, 1935. 8 claims. (Cl. 299-86). Controlling the velocity and density of a fine spray discharged against a moving web.

2,146,809. Vaporizer. George C. Flint, Oak Park, Ill., assignor to Vapo Systems Equipment Company. Filed May 17, 1937. 7 claims. (Cl. 91-44). Apparatus for moistening a horizontally disposed continuous sheet of paper on a roll by means of a fine spray.

2,146,830. Paper refining engine plug. Homer D. Martindale, assignor to The Black-Clawson Company, Hamilton, Ohio. Filed June 21, 1935. 4 claims. (Cl. 92-27). A jordan plug having a frusto-conical surface.

2,146,831. Method of making containers. Daniel E. Maxfield, assignor to Stokes and Smith Company, Summerdale, Philadelphia, Pa. Filed Jan. 5, 1938. 33 claims. (Cl. 93-3).

2,146,837. Means for removing and replacing knives of paper cutting machines. Emil L. Mueller, Rutherford, N. J. Filed March 30, 1935. 7 claims. (Cl. 254-100).

2,146,871. Method of making decorative fiberboard. John A. Wiener and Frank A. Bromley, assignors to Johns-Manville Corporation, New York, N. Y. Filed Oct. 3, 1935. 3 claims. (Cl. 92-55). The sizing composition includes aluminum sulphate, rosin, montan wax, and caustic soda.

2,146,946. Bag manufacture. William H. Engel, assignor to Shellmar Products Company, Mount Vernon, Ohio. Filed Oct. 5, 1936. 5 claims. (Cl. 164-28).

2,146,997. Wrapping machine. Elmer L. Smith and Carlton Wetsel, assignors to Package Machinery Company, Springfield, Mass. Filed Aug. 17, 1937. 4 claims. (Cl. 93-2).

2,147,083. Coating composition. Carl J. Borger, assignor to Inter-chemical Corporation, New York, N. Y. Filed May 4, 1936. 11 claims. (Cl. 134-39). A vehicle which is compatible with a given coating composition and which contains tricalcium phosphate.

2,147,104. Process of manufacturing cold swelling starch. Frederik André Möller, assignor to Naamlooze Vennootschap: W. A. Scholten's Chemische Fabrieken, Groningen, Netherlands. Filed Oct. 6, 1936. 4 claims. (Cl. 127-71). Process of improving cold swelling and cold soluble starch products comprising incorporating lecithin into the material by triturating the same with lecithin rendered sufficiently fluid by heating.

2,147,161. Apparatus for producing bisulphite solutions. Gustaf Haglund, Storangen at Stockholm, Sweden. Filed Feb. 24, 1937. 5 claims. (Cl. 23-283).

2,147,162. Process for the production of bisulphite solutions. Gustaf Haglund, Storangen at Stockholm, Sweden. Filed Sept. 21, 1937. 3 claims. (Cl. 23-132).

2,147,180. Moistureproof coating. Richard Theodore Ubben, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed May 19, 1937. 8 claims. (Cl. 91-68). A moistureproof coating containing modified rosin and a wax.

2,147,213. Paper-making process. Donald K. Pattilloch, assignor to Pattilloch Processes, Inc., Boston, Mass. Filed May 27, 1937. 11 claims. (Cl. 92-21). Use of gelatinized starch, aluminum sulphate, and a precipitant such as sodium aluminate, sodium metasilicate, or sodium sesquisilicate.

2,147,223. Paper feeding mechanism. John G. Vergobbi, assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass. Filed Feb. 5, 1937. 8 claims. (Cl. 93-12). Mechanism for feeding paraffin paper to a cutter.

2,147,345. Decalcomania paper. Ferdinand W. Humphner, assignor to Mid-States Gummed Paper Company, Chicago, Ill. Filed May 20, 1936. 2 claims. (Cl. 41-33). A paper base with a starch, gum and lacquer coating.

2,147,438. Reinforced pulp stone and grinding wheel. John E. Hassler, Portland, Oreg. Filed March 15, 1937. 5 claims. (Cl. 51-206).

2,147,614. Method and machine for making covered folding boxes. Melvin H. Sidebotham, assignor to Specialty Automatic Machine Company, Medford, Mass. Filed Oct. 8, 1937. 11 claims. (Cl. 93-40).

2,147,618. Method of bleaching pulp. Francis G. Rawling, assignor to West Virginia Pulp & Paper Company, New York, N. Y. Filed April 1, 1936. 7 claims. (Cl. 8-104). Pulp is subjected to chlorine at pH 6, made alkaline (pH 8), treated with gas containing free oxygen and then bleached with alkaline hypochlorite solution.

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2,147,628. Moistureproof material. William Hale Charch, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Dec. 22, 1928. 56 claims. (Cl. 91-68). Transparent base for use as a wrapping tissue, coated with a wax, a gum, and a softener.

2,147,629. Coated material and method of producing same. William Hale Charch, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed June 17, 1930. 24 claims. (Cl. 91-68). A synthetic alkyd resin or vinyl resin and a moistureproofing waxy substance form a flexible, moistureproof, homogeneous, non-tacky, strong, tough, and firmly adherent coating.

2,147,623. Packaging and package-making machine. Frederick E. Bickford, Rye, N. Y. Filed July 23, 1937. 13 claims. (Cl. 93-3).

2,147,774. Process of refining clay. Sanford C. Lyons, assignor to Bird Machine Co., Walpole, Mass. Filed July 14, 1936. 7 claims. (Cl. 252-8). A reducing agent is used for removing the coloring impurities from clay.

2,147,793. Process of manufacturing packing and insulating material. William J. Kropp, Wichita, Kans. Filed June 4, 1937. 2 claims. (Cl. 154-28). A loose and fluffy material which has been treated with a fireproofing agent.

2,147,824. Electrical insulating material. John Krauss Webb, assignor to International Standard Electric Corporation, New York, N. Y. Filed Jan. 11, 1936. 13 claims. (Cl. 154-2.6). Impregnating sheets or the like with styrene and converting it into polystyrene at an elevated temperature.

2,147,856. Bag manufacture. Abraham Novick, assignor to F. L. Smithe Machine Co., Inc., New York, N. Y. Filed May 28, 1935. 10 claims. (Cl. 93-8). Plural ply bags.

2,147,877. Vacuum mechanism for paper making machines. Arthur E. Broughton, Glens Falls, N. Y. Filed March 25, 1936. 4 claims. (Cl. 92-51). A single suction pump for maintaining proper vacuum or groups of suction heads of all machines.

2,147,889. Processing of tissue or paper and the product obtained thereby. James I. Gardiner and John Barnes, San Francisco, Calif., assignors of one-third to Charles F. W. Nichols, Chicago, Ill. Filed July 8, 1937 5 claims. (Cl. 131-36). The tissue or paper is impregnated with an aqueous solution of albumen.

2,147,904. Heel for shoes. Rudolf Kukula, assignor of one-half to Edmund Moster, Vienna, Austria. Filed March 27, 1936. 2 claims. (Cl. 36-34). A highly porous mill board is used to build up a heel for shoes and boots.

2,148,037. Paper folding and box lidding device. Frank A. Randall and John D. Cantoni, Napa, Calif. Filed Feb. 11, 1935. 29 claims. (Cl. 1-10).

2,148,113. Waterproofing and cementing material. Alanson L. Eaton and Coral W. Cazel, Pasadena, Calif. Filed June 28, 1937. 2 claims. (Cl. 106-32). A mixture of 76 per cent coal tar, 10 per cent rosin, 1 per cent carnauba wax, 1 per cent pine tar oil, 4 per cent solvent naphtha, and 8 per cent asbestos fiber.

2,148,176. Composite sheet. Leslie R. Schroeder, assignor to American Tissue Mills, Holyoke, Mass. Filed Dec. 28, 1937. 1 claim. (Cl. 154-55).

2,148,283. Preparation of white titanium dioxide pigments. Willis F. Washburn, assignor to National Lead Company, New York, N. Y. Filed May 11, 1936. 2 claims. (Cl. 134-58).

2,148,376. Cylinder paper-making machine. William M. Leeson, assignor to The Sandy Hill Iron & Brass Works, Hudson Falls, N. Y. Filed Jan. 15, 1937. 1 claim. (Cl. 92-43). The cylinder mold is adjustable relative to the adjacent walls of the vat in order to meet various requirements.

2,148,405. Pyroxylin coated materials and method of making the same. Rowland B. Mitchell, assignor to Athol Manufacturing Company, Athol, Mass. Filed April 28, 1938. 2 claims. (Cl. 91-68).

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2,148,448. Method and apparatus for treating paper pulp. Miles Lowell Edwards, Portland, Oreg. Filed Jan. 20, 1936. 14 claims. (Cl. 92-20). Apparatus for hurling pulp against a target to produce a violent impact therewith.

2,148,490. Method of manufacturing reinforced paper. William H. Millspaugh, assignor to Sandusky Foundry & Machine Company, Sandusky, Ohio. Filed April 25, 1936. 2 claims. (Cl. 92-41). Method of feeding a fabric carrying a coating material between a plurality of webs of paper and heating and pressing the composite sheet.

2,148,613. Head box for Fourdrinier machines. Orcutt W. Frost, assignor to Wood Conversion Company, Cloquet, Minn. Filed March 23, 1936. 2 claims. (Cl. 92-44). Method of providing large volumes of a thin slurry to a slow moving wire by placing a baffle between the wire and the place of high velocity flow.

2,148,720. Moisture control system for paper drying machines and method. Adam E. Armstrong, assignor to Armstrong Machine Works, Three Rivers, Mich. Filed March 27, 1936. 16 claims. (Cl. 34-48). Method of maintaining a constant pressure and providing a means for removing air from the drier element by using a dependable steam trap with sufficient handling capacity.

2,148,723. Automatic punching form for box wrapping machines. Charles E. Bartram, Kansas City, Mo. Filed July 5, 1938. 10 claims. (Cl. 93-59).

2,148,893. Process for preparing tanning agents. Rudolf Bauer, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Aug. 13, 1937. 10 claims. (Cl. 149-5). Method of treating lignosulphonic acid.

2,148,999. Insole. Milton O. Schur and Frederick W. Vogel, assignors to Brown Company, Berlin, N. H. Filed Sept. 19, 1936. 5 claims. (Cl. 154-46). An inner ply of stiff fiberboard and outer plies of fibers impregnated with an elastic binder.

2,149,069. Straightening machine. Frederic K. Plympton, Fairfield, Conn., and Lowell Emerson, Pawtucket, R. I. Filed Aug. 6, 1936. 5 claims. (Cl. 92-70). Passing a web between a metal roller and a resilient surface roller, the metal one forced against the other according to the character and amount of curl in the web.

2,149,111. Machine for making knock-down boxes. Samuel Bergstein, assignor to Edna May Bergstein and Robert Morris Bergstein, Cincinnati, Ohio, as trustees. Filed March 9, 1937. 22 claims. (Cl. 93-49).

2,149,178. Manufacture and production of alkali cellulose. Eric Andrew Morton, assignor to Courtaulds, Limited, London, England. Filed Feb. 19, 1938. 3 claims. (Cl. 260-233). The process consists of corrugating the cellulose sheet, passing it through a mercerizing bath, and pressing out the excess of the solution.

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2,149,307. Coating apparatus for strip material. Russell K. Nash, assignor to B. B. Chemical Co., Boston, Mass. Filed Jan. 2, 1937. 10 claims. (Cl. 91-30). A nozzle is used.

2,149,309. Alkali cellulose. Floyd C. Peterson and Albert T. Maasberg, assignors to The Dow Chemical Company, Midland, Mich. Filed June 30, 1937. 5 claims. (Cl. 260-10). A method of aging alkali cellulose.

2,149,310. Alkali cellulose. Floyd C. Peterson and Albert T. Maasberg, assignors to The Dow Chemical Company, Midland, Mich. Filed Nov. 10, 1937. 3 claims. (Cl. 260-233), Method of aging alkali cellulose.

2,149,329. Coated cellulosic fabric. Robert W. Ball, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Nov. 17, 1934. 8 claims. (Cl. 91-70). The coating agent is a mineral wax in which is dispersed an inorganic pigment, such as zinc oxide, zinc sulphide, titanium oxide, and the like; the dispersing agent is a sulphonated oil.

2,149,506. Method of bleaching minerals. Albert H. Bump, assignor to Monsanto Chemical Company, St. Louis, Mo. Filed July 6, 1936. 9 claims. (Cl. 252-8). Use of sulphur dioxide, followed by zinc.

2,149,554. Machine for the production of box parts. Johannes Schmiedel, assignor to "Universelle" Cigarettenmaschinen-Fabrik J. C. Muller & Co., Dresden, Germany. Filed July 24, 1937. 8 claims. (Cl. 93-39). Means for forming the neck from a strip.

2,149,649. Covering for dandy rolls, cylindrical molds, or the like for use in paper making machines. Nelson W. Webb, assignor to Eastwood-Nealley Corporation, Belleville, N. J. Filed Aug. 16, 1935. 1 claim. (Cl. 92-48). A woven wire covering and a wire supporting surface and means for forming a seam.

2,149,832. Roll of paper for high speed pasters. David G. Bernard, assignor to Donald M. Carter, Chicago, Ill. Filed April 22, 1932. 5 claims. (Cl. 242-58).

2,149,833. Means for preparing a roll of paper for high speed pasters. David G. Bernard, assignor to Donald M. Carter, Chicago, Ill. Filed April 22, 1932. 3 claims. (Cl. 242-58).

2,149,843. Treatment of chemical pulp. Frederick F. Frick, assignor to International Smelting and Refining Company, East Chicago, Ind. Filed April 4, 1936. 7 claims. (Cl. 210-1). The rate of settlement of a chemical pulp is increased by adding an emulsion of a starch-bearing material in alkaline solution.

2,149,869. Method and apparatus for tearing corrugated paper. Herman Ringel, Newark, N. J. Filed July 16, 1937. 15 claims. (Cl. 164-84.5). Means for holding a knife within one of the valleys of the corrugated face of the paper during the tearing operation.

2,149,872. Bag and method of making same. David Schmidt, assignor to The Dobeckmun Company, Cleveland, Ohio. Filed Nov. 17, 1938. 13 claims. (Cl. 229-58).

2,149,878. Pulp molding. Harvey V. Mitchell, Massillon, Ohio. Filed Aug. 27, 1936. 15 claims. (Cl. 92-54). Method of molding hollow containers.

2,149,879. Pulp molding. Harvey V. Mitchell, Massillon, Ohio. Filed Feb. 27, 1937. 5 claims. (Cl. 92-54). Method of forming hollow pulp articles.

2,149,896. Method of making cigarettes. Edward Hoxsie McArdle and Leo Roon, assignors to Roxalin Flexible Lacquer Company, Incorporated, Elizabeth, N. J. Filed Feb. 12, 1935. 1 claim. (Cl. 131-39). A partially waterproofed cigarette is made from paper coated with ethylcellulose.

2,149,916. Decalcomania. Ferdinand W. Humphner, assignor to Mid-States Gummed Paper Company, Chicago, Ill. Filed Aug. 7, 1935. 1 claim. (Cl. 41-33). A waterleaf backing sheet containing dye in sufficient quantity to impart a distinctive color to the paper and

a coating of adhesive thereon adapted to take decalcomania printing.

2,150,004. Shingle element. Chester R. MacDonald, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Oct. 21, 1931. 4 claims. (Cl. 108-8).

2,150,016. Method of printing and punching blanks. Andrew C. Wood, assignor to Dixie-Vortex Company, Chicago, Ill. Filed June 7, 1935. 7 claims. (Cl. 270-1). Printing and punching blanks for paper containers.

2,150,132. Drying cylinder. Percy R. Sandwell, assignor to Dominion Engineering Works Limited, Montreal, Quebec, Canada. Filed June 1, 1937. 5 claims. (Cl. 34-4). Method of evacuating water from a steam heated rotary drying cylinder.

2,150,134. Method for the bleaching of bast fibers. Philipp Siedler, Erich Kayser, Helmuth Korte and Wilhelm Waibel, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Jun. 10, 1935. 3 claims. (Cl. 8-108). Chlorine water is caused to act directly after it has been prepared on the bast fibers on cross-wound bobbins.

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R21,028. Method and apparatus for joining wire cloth. William E. Buchanan, assignor to Appleton Wire Works, Inc., Appleton, Wis. Original No. 2,078,369, dated April 27, 1937. Application for reissue July 23, 1938. 29 claims. (Cl. 140-3).

2,150,205. Treatment of regenerated cellulose. Paul Boyd Cochran, Maurice Valentine Hitt and Leland Van Taylor, assignors to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed April 15, 1937. 4 claims. (Cl. 92-20). Manufacture of a cellulosic bulking agent by comminuting regenerated cellulose scrap, removing impurities and drying the product at a temperature below which cellulosic decomposition products are formed.

2,150,235. Treatment of titanium pigments. Robert M. McKinney, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed June 5, 1937. 8 claims. (Cl. 134-58). A titanium pigment containing phosphates.

2,150,236. Process for making titanium pigments. Robert M. McKinney, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Nov. 2, 1937. 13 claims. (Cl. 134-58). The wet grinding of calcined titanium pigments with small amounts of an alkali aluminate.

2,150,275. Method and device for the mechanical production of multiple walled paper bags. Max Goder, Neuss-on-the-Rhine, Germany. Filed Jan. 6, 1937. 9 claims. (Cl. 93-18).

2,150,357. Paper pulp refining apparatus. Joseph E. Bond, Middletown, Ohio. Filed Nov. 5, 1936. 1 claim. (Cl. 92-26).

2,150,690. Pretreatment for esterification of cellulose in attenuated form. Carl J. Malm, assignor to Eastman Kodak Company, Rochester, N. Y. Filed Oct. 14, 1937. 9 claims. (Cl. 260-229). The pretreatment liquid consists of lower fatty acids, at least 40 per cent of which is acetic acid.

MARCH 21, 1939

2,150,910. Pulp article and method of manufacture. Merle P. Chaplin, assignor to The Canal National Bank of Portland, Portland, Maine. Filed April 9, 1937. 5 claims. (Cl. 92-56). Method of manufacturing a multi-layer molded pulp contoured article, as a plate, dish, cup, etc.

2,150,926. Process of making and bleaching paper. Hans O. Kauffmann and George M. Wolfe, Jr., assignors to Buffalo Electro-Chemical Company, Inc., Buffalo, N. Y. Filed July 3, 1937. 5 claims. (Cl. 92-40). A bleaching solution generating active oxygen is incorporated in a pulp sheet and the moisture is eliminated, whereby the bleaching agent is progressively concentrated for effectively bleaching the fibers.

2,150,998. Waxed paper packaging. Julius J. Warshaw, assignor to Kuhmarker Waxed Paper Co., Inc., Brooklyn, N. Y. Filed May 28, 1938. 2 claims. (Cl. 206-57).

2,151,048. Drying roll. Howard J. Rowe, assignor to Aluminum Company of America, Pittsburgh, Pa. Filed May 1, 1937. 6 claims. (Cl. 34-48). An aluminum cylinder having on at least part of its surface a hard, adherent, abrasion-resistant coating of aluminum oxide impregnated with a binding agent.

2,151,049. Drying roll. Richard R. Laing, assignor to Aluminum Company of America, Pittsburgh, Pa. Filed July 1, 1937. 7 claims. (Cl. 34-24). In the production of non-fibrous cellulosic pellicles, the step which comprises passing the same over a heated anodized aluminum surface.

2,151,088. Method of manufacturing hollow articles formed of flexible strip materials. Edouard Louis Diot, Neuilly-sur-Seine, France. Filed Jan. 8, 1935. 13 claims. (Cl. 93-39.1). Method of moulding a pulp bottle.

2,151,220. Building covering material. Lee H. Mattes, assignor to Mastic Asphalt Corporation, South Bend, Ind. Filed July 30, 1937. 3 claims. (Cl. 91-68). The base is a composition board.

2,151,357. Paper-making method. James A. Reitzel, assignor to Morris Paper Mills, Chicago, Ill. Filed July 31, 1936. 1 claim. (Cl. 92-38). A process for the manufacture of paper or paperboard in which, by means of a close flow process, the amount of water employed is controlled to provide a quantity of water suitable for return to the various steps of the process. It is applicable to a cylinder machine. Use of the proposed cylinder-washing mechanism cuts down the amount of water entering the process and raises the concentration of the process water which is circulated.

2,151,665. Envelope machine. Arthur L. Roloff, assignor to Garden City Envelope Co., Chicago, Ill. Filed Jan. 3, 1938. 5 claims. (Cl. 93-62).

MARCH 28, 1939

R21,036. Floor covering. Ralph G. Jackson, Woodbury, N. J. Original No. 1,729,833, dated Oct. 1, 1929. Application for reissue Sept. 29, 1931. 11 claims. (Cl. 91-68).

2,151,737. Apparatus for the manufacture of abrasive coatings. Chester W. Bryan, assignor to Ansonia Coated Abrasives, Inc., Brooklyn, N. Y. Filed Aug. 29, 1935. 6 claims. (Cl. 91-43). Solid mechanical means for intercepting and accelerating movement of abrasive particles while freely falling and in their travel from the receptacle to material to be coated.

2,151,890. Press for cutting cardboard. Henri Bobst, Lausanne, Switzerland. Filed Nov. 9, 1937. 4 claims. (Cl. 164-23).

2,151,963. Method of eliminating foam and froth from the surfaces of fluids and semi-fluids. Erling Fladmark, Lawrence, Mass. Filed Nov. 16, 1934. 6 claims. (Cl. 91-68). The method of defoaming a moving web of paper having a fluid coating film applied thereto which consists in utilizing the movement of said web to distribute a defoamer agent directly upon the surface of said film.

2,152,267. Method and apparatus for digesting fibrous material. Albert D. Merrill, assignor to Chemipulp Process, Inc., Watertown, N. Y. Filed April 1, 1936. 5 claims. (Cl. 92-7). Combination of a digester and an accumulator tank and method of circulating the hot acid liquor between the digester and the tank and by means of heating the circulating acid maintaining the temperature of the acid in the accumulator at a temperature of between 75 and 100° C.

Review Of Paper Industry Literature

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C. for 10 cents each. Send currency, not stamps.

Machinery

Cylinder Machine for the Manufacture of Board or Carton. Firma J. M. Voith, Heidenheim. Ger. pat. 649,221 (Nov. 15, 1934).—A method for introducing the stock to the cylinder for better formation and cross strength of the sheet.—J.F.O.

Recent Multiple Motor Drive with Multiple Phase Shunt Commutator Motors in the Paper Industry. E. Gumprecht. Papier-Fabr. 35, No. 46: 433-39; No. 47:446-48 (Nov. 12, 19, 1937).—The basic principles of the set-up with multiple phase shunt commutator motors is discussed and then the details of a completely automatic drive for a paper machine making printing paper is described. The article is divided into the following headings, continuous regulation of the individual drive motors, high torque possibilities of the individual drive and obtaining a low constant speed for increased load, absolutely safe uniform running of the individual motors with one another, continuous speed selection, and sensitive control operation from the front side of the paper machine.—J.F.O.

Electrification of Chesapeake-Camp Mill at Franklin. R. R. Baker. Paper Mill 61, No. 9:105-114, 140 (Feb. 26, 1938).—A description of the electrical equipment in the 150-ton kraft pulp and paper mill of the Chesapeake-Clark Corp., at Franklin, Va. —A.P.-C.

Some Electrical Drives Recently Installed in Paper Mills. W. Acton. Paper-Maker 94:TS151-155 (Oct., 1937).—A description of recent developments and improvements to the driving of auxiliary gear and to single-motor paper machine drives.—A.P.-C.

Analysis of Electric Power Supply System for Pulp and Paper Mills. H. A. Travers. Paper Trade J. 106, No. 16:42-46 (April 21, 1938).—A discussion of the basic factors to be kept in mind, together with a brief outline of simple but sufficiently rigorous methods of calculation of short circuit values to insure that adequate switchgear shall be chosen for the specific problem.—A.P.-C.

Pumping Problems in Paper Mills. J. G. Rearick. Paper Mill 60, No. 48: 15, 17 (Nov. 27, 1938).—A brief discussion of the causes of air-binding of centrifugal pumps and of the methods of avoiding it.—A.P.-C.

Flexible Equipment for Handling Paper and Raw Materials. Harm White. Paper Mill 61, No. 1:17-18 (Jan. 1, 1938).—A brief discussion of the merits of lift-trucks, more particularly as constructed by Towmotor Co., Cleveland, Ohio.—A.P.-C.

A Versatile Crane System. W. B. Stitt. Pacific Pulp Paper Industry 12, No. 3:26-29 (March, 1938). —A description of the highly efficient roll handling system developed at the Emeryville, Cal., mill of the Paraffine Companies.—A.P.-C.

Temperature and Moisture Regulation. Otto Koritnig. Wochbl. Papierfabr. 69, No. 8:152-56 (Feb. 19, 1938).—Detailed description of the various types of regulators for temperature and moisture control. —J.F.O.

Corrosion

Testing of Digesters with X-Rays. Hakan Swedenborg. Svensk Papperstidn. 41, No. 6:208-214 (March 31, 1938); B. I. P. C. 8:377.—The author discusses the possibilities of x-rays for detecting corrosion of digesters. A number of illustrations are included. On account of the few results available, no definite conclusions with regard to the reliability of the method can be drawn, but it is believed that valuable indications can be obtained by its use.—C.J.W.

Alloy Steel Materials of Construction for Pulp and Paper Mills. John H. Faunce, Jr. Paper Trade 106, No. 15:57-59 (April 14, 1938).—The major troubles in kraft mills are being encountered in digesters, diffusers, evaporators and causticizers. An 18-8 stainless steel has been tried as a remedy for some of the troubles with these pieces of equipment and is proving satisfactory. Other grades of stainless steels are being used for certain applications and test data is not yet available. Use of stainless and other corrosion resisting metals in paper mills is increasing. Attention is drawn to the need for a metals investigation to determine the correct types for many applications in practically all phases of the industry.—A.P.-C.

Preventing Corrosion in the Sulphate Pulp Mill. James A. Lee. Trans. Electrochem. Soc. 73, 7 pp. (preprint) (1938).—The compositions of the several solutions employed are very complicated; sodium hydroxide and sodium sulphide are the principal salts present. Some of the digester shells have pitted badly next to the welds. 18-8 chromium-nickel steel is being tried in new shells. Monel and low-carbon steel appear satisfactory for diffusers. For inlets and outlets of digesters, stainless steel, "Niresist" and monel are recommended. Chromium steels have, likewise, given good service with digester circulating pumps. Stainless steel is best for evaporator tubes. For bleach liquors, rubber lining is best. Cast iron is most generally used for impeller construction, with monel shafts. Steel is preferred for lime slaking tanks and for handling salt cake.—A.P.-C.

Several New Viewpoints Concerning the Cause of Corrosion. Torsten Samson. Zelstoff U. Papier 18, No. 3:113-16 (March, 1938). The author stresses the importance of differentiating between corrosion and erosion, and often both takes place. Graphic explanations of what takes place during corrosion and various theories as to the causes. Tests were made on the heating tubes of an heat exchanger in the circulation system of a sulphate digestor and this was studied further in the laboratory. It is a known fact that there is less corrosion when the material can expand upon heating.—J.F.O.

Power Plant

La Mont Steam Boiler. Claes Baeckstroem. Z. Papier, Pappe, Zellulose, Holzstoff 56, No. 6:71-73 (April 1, 1938); B. I. P. C. 8:405.—La Mont steam boilers operate with forced circulation; their advantages with regard to power consumption and behavior during operation, as well as existing installations, are described.—C.J.W.

Evaluation of Waste Heat and its Cost. Otto Koritnig. Pappen- U. Holzstoff-Ztg. 45, No. 12:134-136; No. 13:147-148 (March 25, April 1, 1938) B. I. P. C. 8:408.—Calculations are given for evaluating the quantity of waste heat required for a certain purpose and for determining whether this quantity is available.—C.J.W.

Partners in Power. Power 82, no. 5:50-2 (May, 1938); B. I. P. C. 8:405.—Two adjoining mills, one a saw mill, and the other a kraft paper mill pool their waste fuel and black liquor and burn it in a jointly-used power plant in the new Chesapeake-Camp Corporation's project at Franklin, Va. The power plant houses two wood-refuse and one black liquor recovery boiler. A detailed description of the layout, supplemented by graphs and a general flow diagram, is given.—C.J.W.

The Processes During Chemical Water Purification. John Troedsson. Svensk Papperstidn. 41, No. 6:203-7 (March 31, 1938); B. I. P. C. 8:408.—The author discusses the methods for removing the humus substances from process water through the addition of trivalent salts, aluminum sulfate in particular, regulation of the addition required, coagulation and sedimentation processes, the rôle of bicarbonates, the most suitable *p*H range, and the influence of the viscosity of the water in relation to its temperature upon the efficiency of the purification process. In conclusion, brief reference is made to slime troubles and methods for combating them.—C.J.W.

The Saunders Valve in the Pulp and Paper Industry. Roger E. Chase. Pacific Pulp Paper Ind. 11, No. 11:22-24 (Nov. 1937).—A brief discussion of its merits.—A.P.-C.

The Mechanism of Heat Transmission in Forced Convection Heat Exchangers. C. H. Baker. Paper Mill 60, No. 39:13 (Sept. 25, 1937).—A brief mathematical explanation.—A.P.-C.

Powering the Pabco Plant. James T. Coleman. Pacific Pulp Paper Ind. 12, No. 1:3-16 (Jan. 1938). —An illustrated description of the boiler plant of the Paraffine Companies, Inc., at Emeryville, Cal. —A.P.-C.

Suction Draft Installations for Factory Boilers. Wochbl. Papierfabr. 69, No. 15:322-23 (April 9, 1938).—The advantages and disadvantages of chimneys and of mechanical suction draft installations for boilers are discussed. A greater utilization of the heat in the burned gases is possible with the mechanical suction draft and the costly chimney foundation is eliminated.—J.F.O.

Quick Method for the Determination of the Hardness of Water. Wochbl. Papierfabr. 69, No. 11:237-38 (March 12, 1938).—Potassium hydroxide is first added to the water to be tested until it gives a slight color with phenolphthalein solution, then a palmitate solution is added till the correct end point is reached.—J.F.O.

Testing the Tube Softening Installation of the Chemischen Fabrik, Budenheim A.G. in Mainz. German patents 625,184, 629,729 and 620,500. A. Splittgerber. Papier-Fabr. 35, No. 45:425-29 (Nov. 5, 1937).—Description of the entire installation and figures and facts for the operation of the process of preparing water for boiler use.—J.F.O.

Power and Heat Economics During the Year 1937. K. Weiss. Zellstoff U. Papier 17, No. 12:554-64 (Dec., 1937); 18, No. 1:20-22; No. 3:134-37

(Jan., March, 1938).—The following are amongst the new apparatus and improvements of 1937 in power and heat operation described in the article; the Huttner revolving boiler turbine, La-Mont boiler, new improvement on many types of boilers and redesigning of the grates, fire box, etc., new type of boiler tubes, valves, blowers, new methods for water softening, motors and turbines and dimensions of a large cooling tower.—J.F.O.

Feed Water Preparation for the Latest High Capacity Boilers. R. Boye. Wochbl. Papierfabr. 69, No. 7:133-36 (Feb. 12, 1938).—Recent boilers operating under high pressures demand a high degree of purity for its feed water. The author discusses, freedom from scale, corrosion, permissible salt content, thermo-mechanical process, chemical and electrical processes for softening the feed water—J.F.O.

Steam Trap Control Prevents Damage and Steam Loss. Wochbl. Papierfabr. 69, No. 6:115 (Feb. 5, 1938).—Discussion of losses and damage done by leaky steam traps.—J.F.O.

The Use of Ryertex Bearings in Paper Mills. Frank W. Vogt. Paper Mill 61, No. 10:16-18 (March 5, 1938).—A brief discussion of their applications in pulp and paper mills and of their merits. —A.P.-C.

The Magno-Process for the Preparation of Mill Water. Aug. Meyer. Zellstoff U. Papier 18, No. 4:201-02 (April, 1938). The Magno Process depends on a simple filtering process in which a prepared material called Magnomass is used as the filtering medium. This material clarifies the water, precipitates the iron and manganese and combines with the free carbon dioxide. Magnomass is mined and then burned in a revolving kiln. (Cf. T. S. 106:173). —J.F.O.

Asbestos Cement in the Manufacture of Paper. Wochbl. Papierfabr. 69, No. 10:201-02 (March 5, 1938).—The advantages of asbestos cement are given and then its applications in the paper mill, such as stock troughs, panels for dividing buildings and keeping them fire-proof, etc.—J.F.O.

Miscellaneous

Newer Uses of Glycerine in Paper Manufacture. Georgia Leffingwell and Milton A. Lesser. Paper Ind. 20:44-46 (April, 1938).—A review with bibliography of 34 references.—A.P.-C.

A Consistence Slide Rule. O. K. Graef. Paper Ind. 20:42-43 (April, 1938).—A description of its construction and use.—A.P.-C.

Problems of the Paper Industry in India. M. P. Bhargava. Indian Print and Paper 3, No. 3:20-22 (March, 1938); B. I. P. C. 8:389.—Statistical data of the Indian paper industry are given, with regard to the grades made in India, imports, and total consumption during the decade 1925/26-1935/36. They show an 88% increased consumption for that period. —C.J.W.

The Beginnings of the Sulphite Industry in Sweden. Th. Folin. Svensk Papperstidn. 41, No. 6:166-170 (March 31, 1938); B. I. P. C. 8:389.—An outline of the beginnings of the Swedish sulphite industry since 1874 is given, when the mill in Bergvik first started to produce pulp according to Ekman's process. The machinery and procedures of this and other early mills in Moelndal and Munkedal are described.—C.J.W.

Paper Consumption and Production in British India. Richard Kleinsasser. Z. Papier, Pappe, Zellulose, Holzstoff 56, No. 6:77-79 (April, 1938); B. I. P. C. 8:390.—Statistics for consumption, domestic manufacture, and imports are given and available raw materials, existing mills and new developments are discussed.—C.J.W.

The Swedish Paper and Pulp Industry During the Last Thirty Years. Svensk Papperstidn. 41, No. 6:171-174 (March 31, 1938); B. I. P. C. 8:390. —The developments of the Swedish pulp and paper industry during the last 30 years are briefly sketched. —C.J.W.

Paper Mill Accounting Statistics. H. K. Wochbl. Papierfabr. 69, No. 15:319-21 (April 9, 1938).—Forms are shown and various points therein are discussed.—J.F.O.

Preservation of the Working Power Through Accident Prevention. H. Lange, Wochbl. Papierfabr. 69, No. 19:405-07 (May 7, 1938).—Every year in Germany there are about 1,500,000 factory injuries and about 7,000 deaths therefrom. The loss to the country, the causes of these deaths and accidents, compensation laws and means and ways for the factory managers to diminish accidents, are discussed. —J.F.O.

The Leipzig Spring Fair 1938. Wochbl. Papierfabr. 69, No. 10:191-93 (March 5, 1938).—Brief description of the fair and its various divisions. There are 9,500 firms represented in either the sample fair or technical fair.—J.F.O.

The Technical Fair and the Pulp and Paper Industry. Hans Kotte. Zellstoff U. Papier, 18. No. 4:189-92; No. 5:244-48 (April, May, 1938).—Amongst the machinery and instruments seen at the fair and discussed in this article are the following; acid-proof steel plate for digestors, calender rolls, wire and screen plate made of artificial resins, variable drive, defiberer for alkali cellulose, conveyors, moisture tester for wood, paper scale, leukometer and flow regulator.—J.F.O.

Technical Nuances in the Pulp, Ground Wood and Paper Mills During the Year 1937. E. Liebert. Zellstoff U. Papier 18, No. 2:53-55; No. 3:116-21 (Feb., March, 1938).—The following are mentioned and briefly discussed; pyrite burners, barker for wood, the addition of small quantities of turpentine to the cooking liquor, liquor recovery by the Tomlinson method, a new causticizing system, pulp bleaching patents, horizontal and vertical refiners for ground wood, bleaching ground wood by means of hydrosulphite, rosin difficulties when using pine for ground wood, new types of beaters, white water savealls, machine coating, instrument for mill control, and power house improvements.—J.F.O.

Lingualism of Paper and Board. Wochbl. Papierfabr. 69, No. 4:76-77; No. 6:116-17 (Jan. 22, Feb. 5, 1938).—The origin and meaning of many words in the paper and board industry are described. Among the words described are; paper, board, parchment, velum, Bristol, folio, etc.—J.F.O.

Protection of Industrial Property in Foreign Countries. Wochbl. Papierfabr. 69, No. 5:97-98 (Jan. 29, 1938).—Discussion of patents, trade marks, etc., in foreign countries.—J.F.O.

Controls of the Indirect Method of Sulphite Pulping*

By A. H. Stanton [1]

Abstract

A description of the time cycle temperature and time cycle pressure and condensate level controls as applied to the indirect method of sulphite pulping.

In this discussion we are to deal with automatic time cycle temperature and pressure control for the indirect method of sulphite cooking, and the proper removal of the condensate from the heat exchanger for return to the boilers.

Equipment Used and the Procedure

Referring first to Fig. 1 we note the pump for circulating the acid through the digester after filling and chip packing and pumping the acid initially. This circulating pump is started as soon as the primary booster pump has built the digester up to the desired pressure for starting the cook. Next, if there is a surplus of low pressure exhaust steam it is economical to utilize this, admitting it to the heat exchanger by a hand valve and thus raising the temperature of acid and the digester to the optimum available from this source of heat. This steam supply is then shut off.

The time cycle cams of the automatic temperature and pressure controls are now set at zero by key setting and the cook is put on to fully automatic control, using high pressure steam so that additional temperature and pressure rise may be possible.

The temperature rise of the digester is in accordance with a predetermined curve (Fig. 2) and automatically conforms to this curve by reason of the time cycle cam of the controller. At a definite end point the cam shuts off the steam.

Simultaneously with the operation of the time cycle temperature controller governing the heat input to the exchanger, a time cycle pressure controller operates the relief of the digester, maintaining the digester at a predetermined pressure value. This control continues in operation after the high pressure steam has been shut off and through the blow-down.

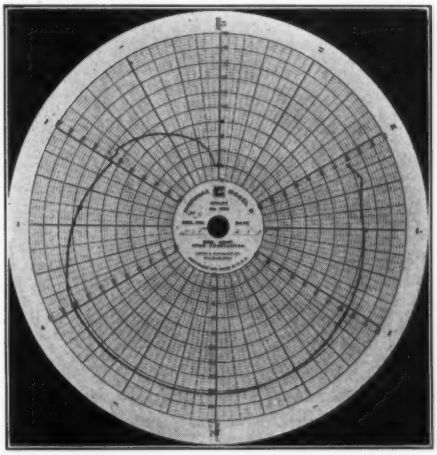


FIG. 2.
Typical Temperature Curve

Features of the Time Cycle Temperature Controller

Some of the pros and cons of various features of this automatic time cycle temperature controller will bring out some of the interesting economic considerations. The first is the use of the potentiometer in contrast with the use of a standard thermal system

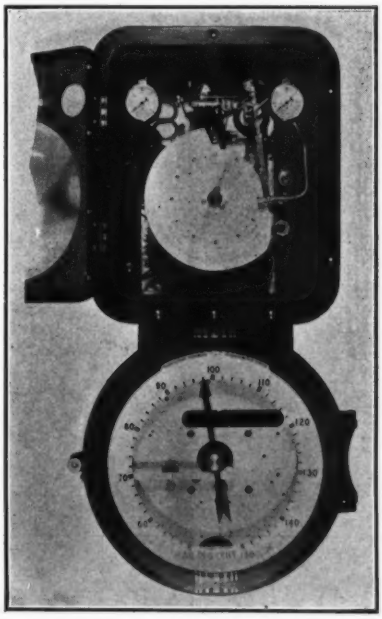


FIG. 3

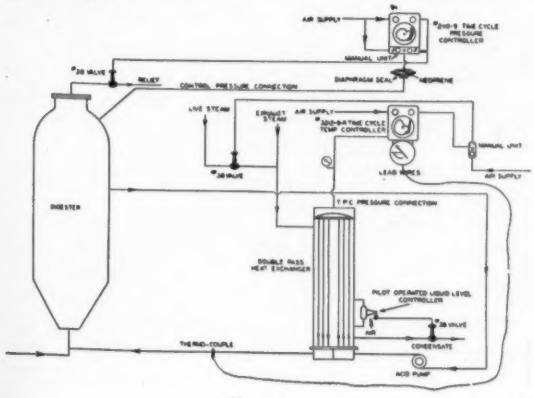


FIG. 1.

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry Roosevelt Hotel, New York, N. Y., Feb. 20- 23, 1939.

[1] Manager Pulp and Paper Sales Dept., Mason-Neilan Regulator Co., Boston, Mass.

for securing the measurement of the temperature. It must be admitted that since we are dealing with a wire connection between the thermocouple, that the potentiometer leads not only have the advantage of cost, but also of flexibility over a thermal system. Furthermore, since the thermocouple and wiring can be handled separately the problem of maintenance is considerably simplified as compared with the thermal system which must be handled as an integral unit. However, the potentiometer alone is not all that is required for the complete control. If we were to try to transmit the thermal indication of the potentiometer electrically through to the control valve, we would find ourselves in one of two predicaments. First, that for any reasonable expenditure of money our control valve action would tend to be off and on and therefore, our results would not be acceptable. If we endeavor to improve this condition and approach floating control valve action, we would then find ourselves faced with an expenditure out of all proportion.

It is well known that air operation makes it possible to secure floating valve characteristics for minimum expenditure. Therefore, it is highly desirable to combine the thermal indication of the potentiometer with air operated control. This particular type of potentiometer incorporates an indication and record of digester acid temperature. In the air operated controller we have a cam cut to the predetermined curve and its function is to automatically reset the temperature control point. The performance of the controller, of course, being inscribed on the chart. Fig. 4 shows the actual internal construction of the air operated controller and illustrates how the cam resets the control point.

We should like to speak briefly on an element in this control which is largely responsible for its successful operation. This is the so-called TPC or thermo pressure compensation. To understand the operation of this we should consider the system as a whole. Let us say that we have a temperature of 110 deg. C. and the cam begins to set the temperature up, the valve will immediately open, and the only measure of how much this valve will open will be in terms of the time it takes for the added heat to make itself felt on the thermocouple—unless some intermediate factor comes into play to prevent the valve from over-running as it goes to its new position. The TPC element is the intermediate factor which, as the valve

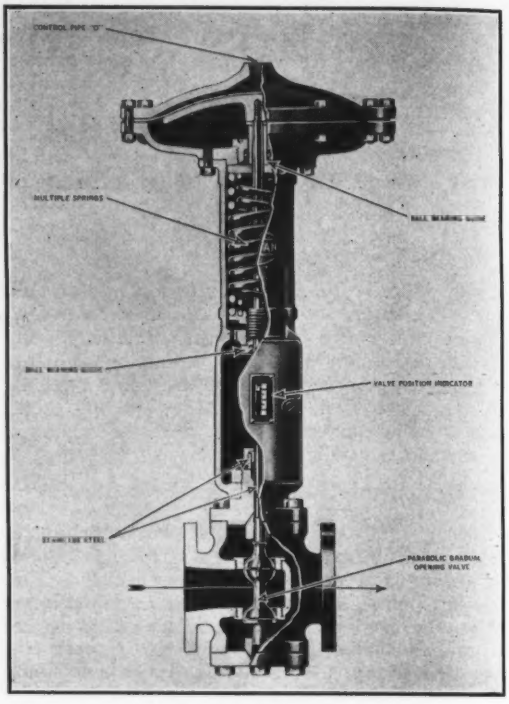


FIG. 5.

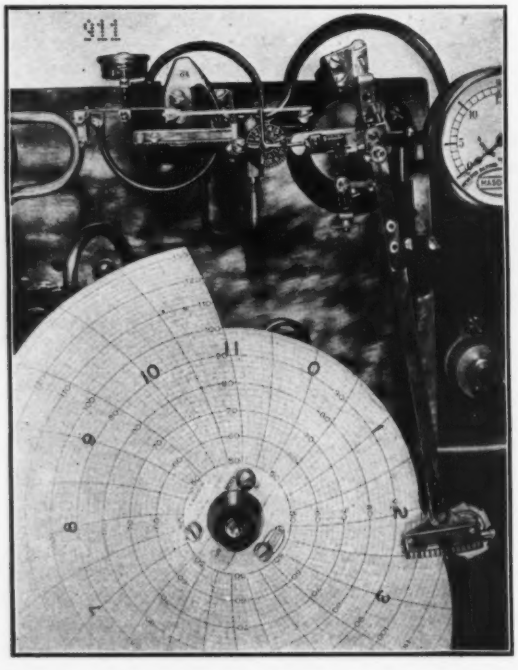


FIG. 4.

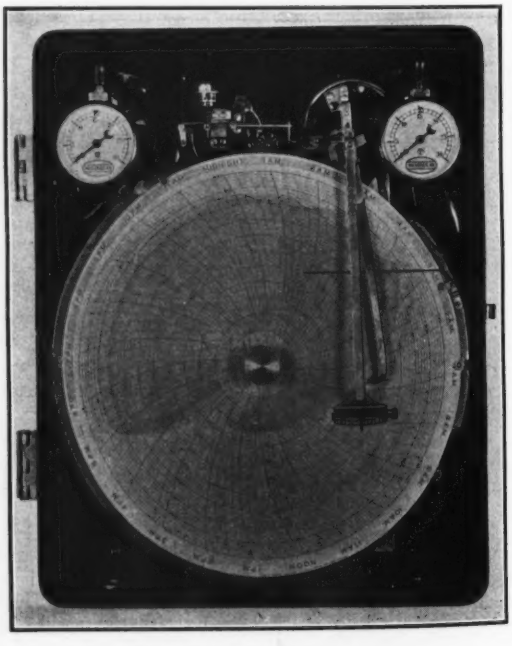


FIG. 6.

comes open, causing an increase in pressure in the heat exchanger and creating a reaction in this coil, opposes the opening of the valve. Thus, we have stability in control and it must not be overlooked that by this means we have accomplished it without sacrifice to a very small throttling range; i. e. at any point of control the temperature element can still move the valve through its full travel on a very small temperature change.

The next important feature has to do with a means for changing, not the temperature curve, but the maximum temperature to which the cook will be brought. Changes in acid strength or like factors which tend to vary cooking time require different end points of temperature. Ordinarily the only way of doing this would be to use as many cams as there are end points. The ingenious device, shown in detail in Fig. 4 in conjunction with a master cam makes it simple to set for whatever end point is required by merely positioning the index pointer on the scale.

The Steam Control Valve

The design of the control valve actuated by the above controller is shown in Fig. 5, and it is located in the high pressure steam line to the exchanger. It should be noted that the control has graduated characteristics essential to satisfactory regulation.

THE TIME CYCLE PRESSURE CONTROL AND SEAL FOR PRESSURE LINE

The automatic time pressure controller is shown in Fig. 6 and we note that in this instance a transparent cam is superimposed on the permanent chart record of the actual pressure of the cook. A Neoprene lined seal is inserted in the digester pressure connection to the control coil of this instrument (See Fig. 1) and although the control coil is made of 18-8, the Neoprene diaphragm of the seal protects it normally from direct contact with the digester acid. Fig. 6 (an interior view) shows this to be a full throttling type instrument with pilot and diaphragm value compensation. Referring now to Fig. 7 we note again the adjustable cam setting device for the purpose of varying the actual value of the control pressure, if need be, from cook to cook.

The design of the control valve (Fig. 8) governed

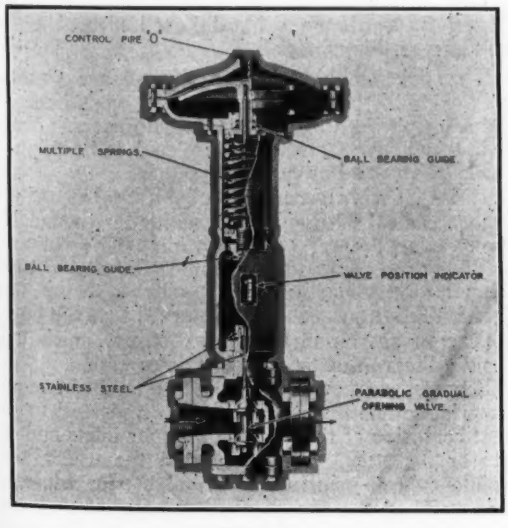


FIG. 8.

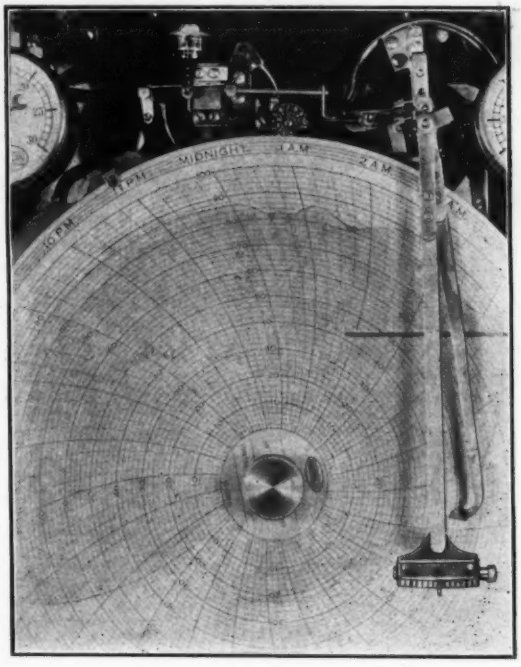


FIG. 7.

by the pressure instrument and located in the relief line is basically the same as that used in the high pressure steam line with the exception that the plug guiding is of the seat-ring-guide type. It has been found that any tendency toward liming has the least effect in causing sticking of the valve owing to the scraping action of the plug in the guides. Similarly by reason of the parabolic design of plug there is the least possible directional flow change and therefore a minimum amount of lime precipitation.

The Condensate Level Control

The third item of control in this process is the

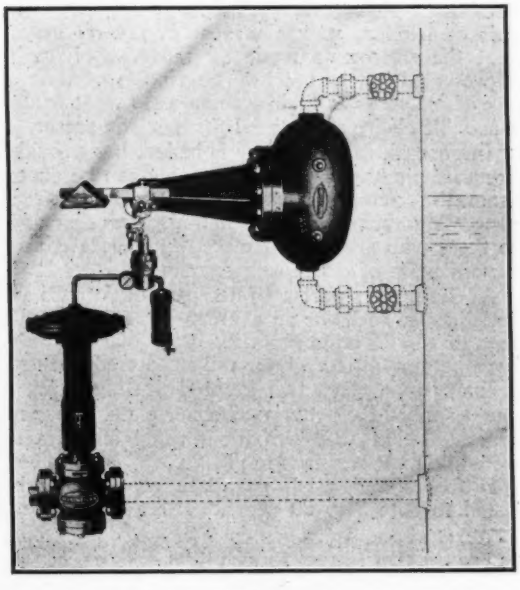


FIG. 9.

condensate controller (Fig. 9). An air operated pilot type of liquid level controller is mounted at the bottom of the heat exchanger and it is the function of this unit to control the condensate level at a definite point by operating a control valve in the condensate line back to the boilers. In this manner excess condensate is continuously relieved from the exchanger during the entire time of operation of the temperature control.

Our description of the process and its control now being complete, let us review the results:

The time of cooking, regardless of variations in acid strength is constant. Thus, the production schedule of the pulp mill is insured and the reserve between the pulp and the paper mill is guaranteed against other emergencies.

The accurate spacing of the digester cooks results in a more evenly distributed load on the gas recovery system. Therefore, the problem of maintaining uniform acid strength is simplified and the cycle of acid making and gas recovery is less likely to be thrown out of step by throwing added burden on the recovery system to the extent that new acid strength may be ultimately weakened.

It is economical to keep the final temperature relatively low for the purpose of saving on the steam input. Similarly, if this temperature is carried too high there is liable to be some effect on the fiber structure, and while the heater capacity will permit higher temperatures in shorter times, it has been found that the rejects increase. Having determined the actual temperature curve with this type of control, it is possible to successfully duplicate and thus insure more uniform pulp.

Processing Equipment Materials in Kraft Mills*

Report of the TAPPI Materials of Construction Committee

By James A. Lee, Chairman [1]

The Materials of Construction Committee of the Technical Association of the Pulp and Paper Industry presents its second report covering practical experience with materials used for processing equipment in kraft pulp mills. Twenty-five mills very kindly cooperated with the committee by supplying the information which is summarized in this report.

Most of the statements submitted were based on experience with metallic and non-metallic materials under actual operating conditions over a period of many years. However, with some of the newer corrosion resisting alloys, experience has been less extensive, but indications of behavior and results of comparative tests have been sufficiently definite to establish their superiority for many applications. In this connection, it was evident in several instances that the statements made by those supplying data represented not so much a description of their past use of materials as their opinion as to what would be a suitable choice of material for new equipment.

In general, this summary is believed to provide an accurate picture of what reasonably can be expected from the commonly used materials in kraft pulp processing equipment. It should also serve as a guide to those who are seeking more durable materials for certain units of processing equipment.

The mills report a life to date of 5 to 25 years for digester shells or an average of 15 years. Thirteen of the 25 mills reporting state that their shells have become pitted. Four mills reported the use of ordinary mild steel, two favored fire box steel, and one described the material as boiler plate. Four mills suggested that 18-8 chromium-nickel stainless steel would be most resistant to pitting.

Diffusers and wash pans are reported to have lasted to date 3 to 30 years. The average life has been 16 years. Fourteen of the mills report pitting. Corrosion has been most pronounced in flat bottoms and lower sections although two mills have been troubled by corrosion above the liquor level. The metals that have been found satisfactory are 18-8 stainless steel, Monel, low-carbon steel, cast iron and open hearth steel.

Eight mills reported satisfactory results with ordinary steel diffuser bottoms. Only one reply gave an actual life for steel which was six years.

Ten mills reported trouble with ordinary steel diffuser bottoms, the trouble taking the form of buckling and corrosion, the latter usually in the form of pitting and enlargement of perforations. The life of unsatisfactory steel diffuser bottoms when reported was from 12 to 18 months.

One mill reported satisfactory experience with Monel diffuser bottoms, but did not indicate the probable life of this material.

The polysulphides in the liquors are generally credited with being the most active constituents in inducing pitting in digesters and diffusers. Among the other active constituents are said to be sulphites, thiosulphates and organic compounds.

It is probably true that sulphidity has material influence on the life of steel, the higher the sulphide the greater the rate of corrosion. The action of kraft liquors seems to bear some relationship to the temperature, the higher temperatures being more destructive. It has also been observed that the liquors appear to act on metals under stress, much more rapidly than on metals not in this condition.

Fourteen mills reported that they did not require materials other than ordinary iron and steel to prevent corrosion at the steam and liquor inlets and outlets or digesters. Eight reported the use of 18-8 stainless steel, principally for valve trim while one mill reported the use of Ni-Resist valves with 18-8 trim. One mill mentioned the use of Monel for

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Roosevelt Hotel, New York, N. Y., Feb. 20-23, 1939.

[1] Chairman, TAPPI Materials of Construction Committee, Managing Editor, Chemical and Metallurgical Engineering, New York, N. Y.

valve trim, while another mill reported the use of Monel for both valve bodies and valve trim handling cooking liquor and black liquor.

Twelve out of 16 mills report corrosion trouble with digester sleeves. 18-8 stainless steel has been found most satisfactory for preventing this trouble. However, mild steel and extra heavy steel have given satisfactory service.

Tube and Circulating Pump Corrosion

There has been considerable variation in experience with the life of tubes in indirect heaters. In one mill plain steel lasted from 9 to 12 months; in another mill steel had a life of 18 months, while in a third two years was the life of the steel tubes. The 18-8 stainless steels are in use in several mills. Their life would appear to be of indefinite length. Monel tubes were mentioned as being used, but no information was given as to their life.

Eight mills reported no galvanic effects between corrosion resisting metal tubes and steel or iron shells and tube sheet; five did have trouble, while one had trouble when bronze or brass was used in valves.

Only one mill has experienced difficulties due to differences in extent of expansion between corrosion resisting tube materials and mild steel or cast iron shell materials. In most instances expansion had been provided for in the design.

Seven of the mills have found that some tube materials scale worse than others. The 18-8 stainless steels and Monel, experience has shown, scale less than plain steels.

Several suggestions were made for the avoidance or reduction of scaling. They were as follows: (1) Keep alumina in system as low as possible: (2) clean tubes: (3) clear, well settled or screened white liquor: (4) stock and rosin-free black liquor: (5) faster circulation: (6) low Na_2SO_4 content: (7) keep causticity up: (8) SiO_2 and AL_2O_3 free liquor: (9) low SO_4 radical.

Six mills have found a relation between liquor composition and the extent of scaling; several factors are said to be conducive to scaling; (1) strong alkali, (2) high silicate content, (3) high salt cube, (4) high soda ash (5) high AL_2O_3; (6) SO_4 radical.

Eight mills have had corrosion or erosion experience with digester circulating pumps. The 18-8 stainless steels have been found by 11 mills to be the best materials to use in preventing the trouble. Both the straight 18-8 chrome-nickel alloy and the chrome-nickel alloy containing molybdenum have been used. Several of the mills are using stainless steel shafts and impellers. One mill is using a higher alloyed steel containing 29 per cent chromium and 10 per cent nickel, while another has found a cast iron (silicon 1.9 per cent, manganese 0.7, sulphur 0.005, phosphorus 0.43, carbon 3, nickel 1) satisfactory.

The packings that have been found to give satisfactory service in pumps handling hot alkaline liquors are as follows: For centrifugal pumps; Anchor No. 317; Cutno; Palmetto; Garlock Nos. 117, 150, 230; Crandall 147; U. S. Packing No. 101; graphitized asbestos and graphitized flax. For reciprocating pumps; Garlock No. 234 and Cutno.

Surface Condensers and Evaporators

In the case of surface condensers used for condensing the blow-off steam from digesters as a means of recovering heat units by heating water, only one mill has encountered corrosion effects on both tube sheets and shells, while five mills have had corrosion of tubes. One of these mills reports corrosion or erosion on impact side of upper part of tubes of commercial steel originally installed. These were replaced with stainless steel and since then no trouble has occurred.

Answers to the question as to the concentration and temperature above which corrosion became apparent in black liquor evaporators showed no agreement on concentration but in general it appeared that 220 deg. F. marked the beginning of severe corrosion. Several mentioned this temperature, while this value also represented the average of all temperatures reported.

It seemed from the general remarks that corrosion was not a simple function of concentration or temperature and in some cases was as pronounced on the vapor side as on the liquor side of the evaporator tubes.

The 18-8 stainless steels easily won the vote as the type of material best suited to resist corrosion in evaporator tubes, 14 mills reported they were using straight 18-8 chrome-nickel, the low-carbon variety or the one with the molybdenum addition. Stainless steels have been in service 6, 7, 9 or more years without showing any indication of attack. Three mills report Monel metal to be satisfactory for tubes. Seven mills have been employing ordinary steel with varying success; it has had a life of 6 years in one instance, 4 years in another, in a third mill 1 year when used at high temperatures while under other conditions in the same mill, it has lasted from 2 to 3 years. In still another mill, ordinary steel tubes have lasted between 5 and 6 years in the first effect and 8 years in the other effects.

One engineer has suggested that this trouble might be avoided by covering the vapor side of the steel tubes with a thin layer of nickel. One mill reported a life of 5 years for Swedish charcoal iron tubes in a high density effect with longer life in other effects.

Some Preventative Suggestions

It has been the experience of most engineers that the scale formation is more extensive on some metallic tube materials than on others. Several have found that stainless steels are least apt to scale, while others report Monel, Swedish charcoal iron and chrome plate have shown best results. Suggestions for the prevention of scaling include the following: (1) highly polished steel surfaces and (2) low salt cake stock and rosin in liquor.

Pumps and Vacuum Filters

Ten of the 21 mills replying to the question as to what metallic materials can be used in pistons and piston rods in pumps handling black liquor, state that they are using stainless steels. Five have found Monel satisfactory. Among the other metals in this service are: Ni-Resist, ordinary steel and cast iron. One mill is using pistons made from 3 per cent nickel cast-iron and piston rods of 18-8 stainless steel.

In the washing of kraft pulp or vacuum filters, 13 mills report Monel metal best suited for the wire cloth. Six prefer 18-8 stainless steel, while one considers nickel wire best for the purpose.

A variety of materials were said to be best suited for pumps handling condensate from multi-effect evaporators. Nine mills preferred 18-8 stainless steels; five, Monel; two, Elcomet K (Fe; Cr, 24; Ni.

22; Cu, 3.5; Mo, 2; Si, 1.25; C, 0.13); two, acid resistant bronze; two, ordinary cast iron; one, ordinary steel; and one Ni-Resist; Others prefer: (1) Ni-Resist castings with 18-8 steel impellers, (2) Monel with stainless steel runners, (3) 1 to 2 per cent nickel cast iron, (4) grey iron with Monel trim, (5) semi-cast iron (Si, 1.90; Mn, 0.7; S, 0.065; P, 0.43; C, 3; Ni, 1); (6) cast iron with bronze valve seats, cylinder lining, tail rod and piston rod.

Many materials are being used to convey vapors given off from contaminated condensate leaving evaporators or from vapors exuding from concentrated liquor tanks, diffusers, smelting furnaces, etc.

For piping: ten mills are using ordinary steel, although in some cases it is giving considerable trouble, seven report using cast iron, one uses wrought iron and three use 18-8 stainless steel.

For ducts; four use ordinary steel, four use cast iron, two use galvanized iron, two use 18-8 stainless steels. Other materials in use are: wrought iron, brick, Transite and asphalt paint.

For fans; five use ordinary steel; two, stainless steels; two wrought iron; two, black iron; one, Monel; one, galvanized iron; and one, chlorinated rubber paint.

Experience has proved the following materials to be best suited for pumps handling bleach liquor; plain cast iron (one mill reports it has been in use for 10 years, presumably handling lime bleach), stainless steels, high-silicon iron, and rubber linings. For the handling of chlorine water, Hasteloy C, high-silicon iron, cast iron, stainless steel, and rubber linings.

Ordinary cast iron is in use for pumps handling milk of lime in almost every mill reporting. Other materials used are Ni-Resist, 18-8 stainless steels, chilled iron, 5 per cent nickel cast iron and semi-steel cast iron (same as previously reported).

In pumping liquids containing abrasives in suspension (such as lime sludge), as in recausticizing service, every mill has found the open impeller best, purely from the standpoint of impeller life and without regard to pumping efficiency.

Eleven of the mills have found cast iron best suited for use in such pumps. In one of the cases the shells and impellers are cast iron while the shafts are made of Monel. Another uses manganese steel or silicon iron depending on the nature of the service. A 3 per cent nickel cast iron and a cast iron containing Si, 1.9; Mn, 0.7; S, 0.005; P. 0.43; C, 3; Ni, 1 are also in use.

Two mills prefer cast steel; one, manganese steel; three, plain steel; six, stainless steels (18-8 Cr-Ni, and 18-8 Cr-Ni plus Mo.); one, Cataract (a Cu-Ni alloy); and one, Monel with shafts of 18-8 Cr-Ni plus Mo. or Monel and 5 per cent chromium steel.

Seventeen mills are using steel tanks for slaking lime (two of these are lined with concrete), two are using cast iron, one prefers tile while another employs red brick and cement.

With only two exceptions the mills are experiencing serious corrosion of mild steel at the liquor level in white liquor clarifying tanks in continuous causticizing systems. A few of the mills have attempted to increase the life of the equipment by using the heaviest steel plate possible. The materials that were reported as satisfactory are: brick linings, stainless steel at the liquor level and stainless-clad steel at the liquor level.

Furnace Linings

On the bases of popularity soapstone and chrome refractories for refractory linings of smelter furnaces are about evenly divided. Special comments were as follows: (1) Chrome in smelting zone and No. 1 fire brick in combustion chamber and rotary, (2) Chrome brick for top hole, (3) Chrome brick wall in bottom, well insulated.

One mill reports that soapstone linings have not been satisfactory while two have found soapstone partially satisfactory. It has been found by another to be satisfactory in the upper zone of Wagner furnaces, while still another reports it satisfactory in the upper but not in the lower zone.

Ten mills report satisfactory results with water jacketted furnace bodies. In one mill they have proved unsatisfactory and in two others there has been only a partial success.

Handling Other Chemicals

The handling of salt cake and salt cake dust are of little or no problem to most mill engineers. Ordinary steel and cast iron are generally used, although in a few cases concrete is employed. One mill is using wood for handling the dust.

Protective Coatings Infrequently Tried

Very few cases were found where protective coatings were tried for service in connection with the several corrosives referred to above. Three mills are using chlorinated rubber base paints for protection in the bleach plant. S.D.O. and asphalt paints are used for the same purpose. Sprayed metal coatings have been used on pump impellers in one mill and in a few others stainless steels sprayed onto base metal equipment have been used for protective purposes.

Composition Most Generally Recommended

The composition most generally recommended for sumps are floor in contact with black liquor is 1 part of cement, 2 parts of sand and 3 to 4 parts of gravel. One mill prefers about one-half that amount of gravel. Two other formulas that were contributed are as follows: (1) 1 bag of cement, 3-3½ cu. ft. of sand, add 7 gal. of water per bag of cement. Gunnite this material 3 in. deep on the floor; add (2) high cement content, dense-hard concrete well trowelled and installed with low water content but kept damp until well set and cured for 72 hr.

Experimenting With Cement-Lined Pipe

Pipe used for handling, cooking liquor, black liquor, milk of lime, green liquor, is made from: steel, wrought iron, or cast iron. One mill is now experimenting with cement-lined pipe. The metals that are used for valves and valve trim handling these liquors are: cast iron, both the plain 18-8 stainless steel and the one containing molybdenum. Some mills employ Ni-Resist for the valve body and 18-8 stainless steel for the trim. Another combination in service is cast iron valve body and 18-8 stainless steel containing molybdenum for trim. One mill reports using the stainless steel containing molybdenum only in case the concentrated black liquor is about 220 deg. F. Monel is used for valve trim in another mill while in yet another Monel is used for the valve body as well as the trim when handling cooking liquor and black liquor.

Imports of Paper and Paper Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard, Wallboard, Cigarette Papers, Sulphite, Kraft and Ground Wood Pulp.

NEW YORK IMPORTS

WEEK ENDING APRIL 8, 1939

SUMMARY

Cigarette paper .....323 cs.
Wall paper .....1 ble., 10 cs.
Paper hangings .....5 bls.
Newsprint .....7464 rolls.
Printing paper .....35 rolls, 105 cs.
Wrapping paper .....12 cs.
Drawing paper .....10 cs.
Filter paper .....30 bls., 20 cs.
Basic paper .....10 crates, 142 cs.
Metal covered paper .....24 cs.
Surface coated paper .....115 cs.
Surface baryta coated paper .....47 crates, 38 cs.
Photo paper .....4 cs.
Decalcomanias .....66 cs.
Tissue paper .....101 bbls., 2 cs.
Gummed paper .....5 cs.
Wood pulp paper .....31 bls., 10 cs.
Colored paper .....3 cs.
Paper tubes .....93 cs.
Miscellaneous paper .....72 rolls, 4 cs.

CIGARETTE PAPER

Champagne Paper Corp., *Paris*, Havre, 320 cs.
De Mauduit Paper Corp., *Paris*, Havre, 3 cs.

WALL PAPER

Titan Shipping Co., *Stavangerfjord*, Hagastrom, 2 cs.
——, *Ascania*, London, 3 cs., 1 ble.
——, *Europa*, Bremen, 5 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Merchant*, London, 5 bls.

NEWSPRINT

Perkins Goodwin & Co., *Hamburg*, Hamburg, 690 rolls.
Jay Madden Corp., *Hamburg*, Finland, 396 rolls.
N. Y. Evening Journal, *Markland*, Liverpool, N. S., 760 rolls.
N. Y. Tribune, *Markland*, Liverpool, N. S., 1693 rolls.
World Telegram, *Markland*, Liverpool, N. S., 590 rolls.
Brooklyn Daily Eagle, *Markland*, Liverpool, N. S., 551 rolls.
Herald Statesman, Inc., *Markland*, Liverpool, N. S., 43 rolls.
News Leader Co., *Markland*, Liverpool, N. S., 1011 rolls.
——, *Stavangerfjord*, Oslo, 324 rolls.
Jay Madden Corp., *Dessau*, Finland, 213 rolls.
——, *Lagaholm*, Norrkoping, 107 rolls.
——, *Lagaholm*, Hallstavik, 513 rolls.
Jay Madden Corp., *Mormacport*, Kotka, 247 rolls.
Jay Madden Corp., *Mormacport*, Rauma, 326 rolls.

PRINTING PAPER

E. Dietzgen & Co., *Hamburg*, Hamburg, 3 cs.
Irving Trust Co., *Stavangerfjord*, Gothenburg, 35 rolls.
R. J. Saunders, *Paris*, Southampton, 6 cs.
Dingelstedt & Co., *Europa*, Bremen, 61 cs.
L. A. Consmiller *Europa*, Bremen, 35 cs.

WRAPPING PAPER

C. S. Allen Corp., *Ascania*, London, 12 cs., (waxed).

DRAWING PAPER

H. Reeve Angel & Co., Inc., *American Merchant*, London, 2 cs.
Massce & Co., *Europa*, Bremen, 8 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., *American Merchant*, London, 20 cs.
H. Reeve Angel & Co., Inc., *Queen Mary*, Southampton, 30 bls.

BASIC PAPER

Globe Shipping Co., *Hamburg*, Bremen, 74 cs., 10 crates.
Dingelstedt & Co., *Pennland*, Antwerp, 35 cs.
Dingelstedt & Co., *Europa*, Bremen, 33 cs.

METAL COVERED PAPER

K. Pauli Co., *Hamburg*, Bremen, 22 cs.
——, *Europa*, Bremen, 2 cs.

SURFACE COATED PAPER

Gevaert Co., of America, *Pennland*, Antwerp, 115 cs., (unfinished photo-paper).

SURFACE BARYTA COATED PAPER

Globe Shipping Co., *Hamburg*, Bremen, 47 crates, 31 cs.
Dingelstedt & Co., *Pennland*, Antwerp, 7 cs.

PHOTO PAPER

Medo Photo-Supply Co., *Ascania*, London, 3 cs.
J. J. Gavin Co., *Queen Mary*, Southampton, 1 cs., (unsensitized).

DECALCOMANIAS

Sellers Transportation Co., *Hamburg*, Hamburg, 43 cs.
Sellers Transportation Co., *Europa*, Bremen, 23 cs.

TISSUE PAPER

Jay Madden Corp., *Scanpenn*, Helsingfors, 1 cs., 10 bbls.
Heemsoth Kerner Corp., *Queen Mary*, Southampton, 1 cs., (coated).

GUMMED PAPER

Heemsoth Kerner Corp., *Hamburg*, Bremen, 5 cs.

WOOD PULP PAPER

A. Giese & Son, *Veendam*, Rotterdam, 10 cs., 31 bls.

COLORED PAPER

Hensel Bruckman & Lorbacher, *Europa*, Bremen, 3 cs.

PAPER TUBES

——, *Hamburg*, Hamburg, 93 cs.

MISCELLANEOUS PAPER

——, *Stavangerfjord*, Gothenburg, 72 rolls.
Person & Weidhorn, *American Merchant*, London, 4 cs.

RAGS, BAGGINGS, ETC.

Atlantic By Products Corp., *Scanpenn*, Copenhagen, 130 bls. bagging.
National City Bank, *Astri*, Buenos Ayres, 72 bls. bagging.
Bank of New York, *Astri*, Buenos Ayres, 158 bls. bagging.
——, *Astri*, Buenos Ayres, 130 bls. bagging.
J. Levy & Son, *Orizaba*, Havana, 116 bls. rags.
——, *American Traveler*, Glasgow, 21 bls. paperstock.
W. Steck & Co., *Mormacport*, Copenhagen, 106 bls. bagging.

HIDE CUTTINGS

——, *American Traveler*, Liverpool, 348 bags.

OLD ROPE

W. Steck & Co., *Consuelo*, Hull, 48 coils.
National City Bank, *American Traveler*, Glasgow, 53 coils.
W. Steck & Co., *Veendam*, Rotterdam, 48 coils.

CHINA CLAY

Meadows Wye & Co., *Ascania*, London, 10 casks.

WOOD PULP

Pulp Sales Corp., *Scanpenn*, Helsingfors, 260 bls, sulphate, 52 tons.
Pulp Sales Corp., *Scanpenn*, Kasko, 8455 bls. sulphite, 1658 tons.
M. Sone, *Scanpenn*, Gdynia, 150 bls. wood pulp, 25 tons.
Bank of New York, *Hamburg*, Hamburg, 165 bls. wood pulp, 33 tons.
——, *Hamburg*, Hamburg, 175 bls. wood pulp, 36 tons.

Chase National Bank, *Stavangerfjord,* Oslo, 720 bls. bleached sulphite.
———, *Stavangerfjord,* Oslo, 250 bls. sulphite.
J. Anderson & Co., *Stavangerfjord,* Oslo, 3171 bls. sulphite.
The Borregaard Co., Inc., *Stavangerfjord,* Sarpsborg, 1008 bls. unbleached sulphate.
A. Giese & Son, *Veendam,* Rotterdam, 50 bls. wood pulp.
Stora Kopparberg Corp., *Lagaholm,* Skutskar, 905 bls. dry pulp.
Pagel Horton & Co., Inc., *Lagaholm,* Skutskar, 500 bls. sulphite.
———, *Dessau,* Bremen, 150 bls. wood pulp.
Pulp Sales Corp., *Mormacport,* Kotka, 1680 bls. sulphite, 333 tons; 1332 bls. sulphate, 266 tons.
Pulp Sales Corp., *Mormacport,* Rauma, 2940 bls. sulphite, 472 tons.
M. Sone, *Batory,* Gdynia, 300 bls. wood pulp, 50 tons.

WOOD PULP BOARDS

W. Bersch, *Hamburg,* Hamburg, 175 bls., 17 tons.
———, *Dessau,* Bremen, 50 bls. (sheets).
Jay Madden Corp., *Mormacport,* Kotka, 88 rolls, 84 bls.

NEWARK IMPORTS

WEEK ENDING APRIL 8, 1939

Price & Pierce, Ltd., *Dominion Shipper,* Huntsport, N. S., 1888 bls. unbleached mechanical pulp.

ALBANY IMPORTS

WEEK ENDING APRIL 8, 1939

Parsons & Whittemore, Inc., *Spidola,* ———, 5000 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING APRIL 8, 1939

Neidich Process Co., *Scanpenn,* Helsingfors, 73 bbls. tissue paper.
J. W. Hampton, Jr. & Co., *Scanpenn,* Kotka, 92 rolls newsprint.
Public Ledger, Inc., *Scanpenn,* Kotka, 572 rolls newsprint.
Jay Madden Corp., *Scanpenn,* Kotka, 99 rolls wood pulp boards, 21 tons.
F. Whitaker Co., *Scanpenn,* Copenhagen, 20 bls. rags.
Castle & Overton, Inc. *Argentino,* Buenos Ayres, 54 bls. old cloths.
F. Whitaker Co., *Mormacport,* Copenhagen, 10 bls. rags.
———, *Mormacport,* Rauma, 168 rolls newsprint.
Price & Pierce, Ltd., *Tugela,* ———, 500 bls. bleached sulphite.

BALTIMORE IMPORTS

WEEK ENDING APRIL 8, 1939

Gottesman & Co., Inc., *Svaneholm,* Sweden, 265 bls. wood pulp.
Jay Madden Corp., *Scanpenn,* Kotka, 74 rolls newsprint.
Pulp Sales Corp., *Scanpenn,* Kotka, 175 bls. sulphate, 35 tons; 590 bls. sulphite, 118 tons.
Castle & Overton, Inc., *Scanpenn,* Kotka, 1241 bls, unbleached pulp, 246 tons.
American Express Co., *Black Heron,* Antwerp, 8 cs. stencil paper.
Congoleum Nairn Co., *Ingria,* Marseilles, 1248 bls. rags.
Price & Pierce, Ltd., *Tugela,* ———, 500 bls. bleached sulphite.

NORFOLK IMPORTS

WEEK ENDING APRIL 8, 1939

N. Y. Trust Co., *Black Heron,* Rotterdam, 26 bls. bagging.
N. Y. Trust Co., *Black Heron,* Antwerp, 125 bls. bagging.
Castle & Overton, Inc., *Mormacport,* Kotka, 904 bls. wood pulp, 176 tons.
Pulp Sales Corp., *Mormacport,* Kotka, 2664 bls. sulphate, 515 tons; 1070 bls. sulphite, 214 tons.
Durmstadt Scott & Courtney, *Mormacport,* Kotka, 280 bls. rags.

NEW ORLEANS IMPORTS

WEEK ENDING APRIL 8, 1939

Perkins Goodwin & Co., *Lagaholm,* Drammen, 1920 bls. sulphate.
———, *Lagaholm,* Drammen, 675 rolls newsprint.

HOUSTON IMPORTS

WEEK ENDING APRIL 8, 1939

———, *Dessau,* Hamburg, 93 rolls newsprint.
Jay Madden Corp., *Dessau,* Finland, 41 rolls, 21 bls. newsprint.

Will Assist Canara Mills

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 5, 1939—The Canara Pulp and Paper Mills, Ltd., registered in Bombay, plans to utilize wood from the forests in the Karwar district for manufacturing paper, according to reports from the office of the American Trade Commissioner, Calcutta. The Government of Bombay has agreed to give the company important concessions and will, it is understood, supply some of the required capital. In the latter event, the Government will have the right to appoint two of the members of the board of directors of the company.

The Government plans to charge the company a royalty based on the amount of bamboo consumed and to allow free use of river water. The factory is expected to be ready for operation by the end of 1940.

Metermax Combustion Control

The application of Metermax combustion control to boiler furnaces of every major type—pulverized coal-fired, stoker-fired, gas and oil-fired—is featured in a new 32-page catalog just issued by the Leeds & Northrup Company. Profusely illustrated, this publication not only pictures each type of installation, but by means of schematic diagrams shows how Metermax is applied. Reproductions of chart- records illustrate the results actually being secured in central stations and industrial power plants. There is also a large double-page photo-diagram in which a special effort has been made to present the System so clearly that even a non-technical reader can easily grasp the essentials. A copy may be obtained by writing to Leeds & Northrup Company, 4934 Stenton avenue, Philadelphia, Pa., asking for Catalog N-01-163.

A New Du Pont Color

A new spirit soluble color, "Luxol" Fast Blue MBS, for making transparent lacquers and spirit printing ink colors, is announced by E. I. du Pont de Nemours & Company. In alcohol solutions it may be used for coloring leather, paper, celluloid and wood. The dyestuff produces bright greenish shades of blue. It is equal in strength to "Luxol" Fast Blue AR and "Luxol" Fast Blue G, but much greener and brighter and possesses better fastness to light than either of these dyestuffs, the company says.

Carries Full Line of Bristol

The Great Atlantic Paper Company Inc., 591 Washington street, New York, N. Y., is now carrying in stock a full line of index bristol, in white and colors, together with Government post card, on which they are exclusive selling agents for New York City and vicinity.

Schell Paper Co. Starts

A. A. Schell, who recently severed his connection with the Aldine Paper Company and established his own business under the style of the Schell Paper Company with offices at 41 Park Row, New York, is specializing in greeting card papers.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, April 12, 1939.

Somewhat less activity in the wholesale paper market during the current week is reflected in reports from the trade. The apparent critical situation in Europe and the restrictions imposed upon business enterprise by legislative laws now in effect, have forced bond and stock prices to lower levels and have exerted downward pressure on commodity prices. The psychological effect of this instability appears to have been exaggerated and created a fear complex not entirely justified by actual conditions. The favorable factors underlying current industry and trade seem to more than offset the unfavorable factors and the outlook is improved compared with last year.

According to the latest report of the Department of Commerce, dollar sales of 106 reporting paper merchants for February of this year, were 3.5 per cent higher than for the like month last year. Inventories (cost) of 52 concerns were 8.5 per cent lower; wholesale accounts receivable and collections of 82 concerns were 5.1 per cent higher than in 1938.

The index of general business activity rose to 89.4 per cent for the week ended April 1, compared with 88.5 per cent for the previous week, and with 78.1 per cent for the corresponding week last year. Among the component activities forming this index, declines were indicated in miscellaneous car loadings; automobile production was 6.5 per cent lower, and paper production 2.7 per cent higher than for the preceding week. The production ratio of over 200 paper mills for the week ended April 1, stood at 85.8 per cent, compared with 83.1 per cent for the preceding week, and with 72.3 per cent for the corresponding period last year. Paper board production stood at 74.0 per cent for the week ended April 1, compared with 73.0 per cent for the previous week and with 61.0 per cent for the like period last year.

No important change has been reported in the newsprint market for the current week. Production and consumption continue at approximately the same level as for the previous week. Prices remain firm at prevailing market quotations at from $48 to $50 per ton, in rolls. It is reported that mills in this country continue to operate at capacity while some Canadian mills are running at a lower rate of capacity than formerly.

No appreciable change in the general demand for paper and paper board has been reported this week. As a whole, sales volume is fair and well above that of last year. Prices on all grades of paper continue relatively firm and except in a few lines the price structure is reported as more satisfactory than last year.

Kraft paper production and orders are well maintained at this date. Although currently at a slightly lower level than in the early part of this year, output and sales are at a high level and are well balanced. The paper board division is quite active and prices are at a more equitable level than formerly. The outlook is good.

Mechanical Pulp

The market situation in mechanical pulp continues practically unchanged for the current week. Prices remain unchanged and conform to prevailing market quotations.

Chemical Pulp

No important change in demand or quotations has been reported in any grade of chemical pulp this week. Custom officials have advised importers that appraisement of shipments entering New York and other ports is to be withheld, beginning this week, pending an investigation of suspected dumping. Pending completion of the investigation, single entry bonds are required to release shipments. It has been pointed out that dumping duties may be applied if deemed advisable, even though wood pulp is on the free tariff list.

Old Rope and Bagging

No change in the market situation in old rope has been reported for the week. The domestic demand continues rather light, with no important change in prices. A little less activity is reported in old bagging, with prices remaining unchanged at prevailing levels.

Rags

The domestic rag market continues steady and firm on new cuttings. New white No. 1 shirt cuttings are higher this week and currently quoted at from $6.85 to $7.15; new unbleached at from $6.75 to $7.00. Quotations on roofing rags continue firm and mills are reported to have increased production. Prices remain unchanged, with the exception of No. 2 roofing rags, which are higher this week and currently quoted at from .90 to .95. The foreign rag market is inactive and prices continue nominal.

Old Waste Paper

The market for old waste paper continues firm, with no change in prices reported, despite some talk in the trade of an upward revision on No. 1 mixed paper. Demand for mixed papers continues to expand and mills are buying freely as board production continues to rise.

Twine

Somewhat more activity is reported in sales of some grades of twine for this week. Prices continue firm and no changes on any grade of hard or soft fiber twines has been reported for the current week.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, April 12, 1939.

BLANC FIXE—Prices on blanc fixe continue firm and unchanged at prevailing market quotations. The pulp is quoted at from $42.50 to $45 per ton, in bulk; the powder is offered at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER—Quotations on bleaching powder continue firm and conform to prevailing market levels. Bleaching powder is quoted at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The demand for casein continues to be reported as fair. Standard domestic casein, 20-30 mesh, is currently quoted at from 7½ to 8 ce nts per pound; 80-100 mesh at from 8 to 8½ cents per pound; all prices in bags, car lot quantities.

CAUSTIC SODA—Prices on caustic soda continue firm and unchanged at prevailing market quotations. Solid caustic soda is quoted at from $2.10 to $2.30 per 100 pounds; flake and ground at from $2.50 to $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Quotations on china clay are firm and continue unchanged at prevailing market levels. Domestic filler clay is quoted at from $6.50 to $12 per ton; coating clay at from $11 to $22 per ton, at mines. Imported clay is quoted at from $13 to $25 per ton, ship side.

CHLORINE—Prices on chlorine continue firm and conform to prevailing market quotations. Chlorine is quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The demand for rosin is reported as fair for the current week. Prices at this date are lower. "G" gum rosin is quoted at $4.80; "FF" wood rosin at $4.10, per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent gum rosin size is quoted at $2.69 per 100 pounds, f.o.b., shipping point.

SALT CAKE—Quotations on salt cake continue firm and unchanged at prevailing market levels. Quotations range at from $12 to $13.50 per ton; chrome salt cake at from $11 to $12 per ton, f.o.b., shipping point. Imported salt cake is quoted at from $14.50 to $15 per ton, Gulf or Atlantic Seaboard, on dock.

SODA ASH—Prices on soda ash continue firm and unchanged at prevailing market quotations. Prices on soda ash in car lots, at works, per 100 pounds, are as follows: in bulk, $0.90; in bags, $1.05; and in barrels, $1.35.

STARCH—The demand for corn starch is reported as good. Prices continue unchanged and conform to prevailing market levels. Globe pearl is quoted at $2.50 per 100 pounds; special paper starch at $2.60 per 100 pounds. All prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina continue firm and conform to prevailing market prices. The commercial grades are quoted at $1.15; iron free at $1.30 per 100 pounds, in bags, car lot quantities, f.o.b., works.

SULPHUR—Prices on sulphur remain firm and conform to prevailing market levels. Annual contracts are quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are offered at $19 per ton.

TALC—Quotations on talc continue firm and conform to prevailing market prices. Domestic talc is offered at from $15 to $18 per ton, Eastern mines. Imported talc is quoted at from $20 to $40 per ton, on dock.

Market Quotations

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	@	—
Kraft—per cwt.—Delivered Zone A			
No. 1 Northern	$4.75	@	$5.25
Superstandard	4.12½	@	4.62½
Northern Standard Wrapping	4.00	@	—
Standard Wrapping	3.50	@	—
Tissues—Per Ream—Carlots			
White No. 1	.92½	@	—
White No. 1 M. G.	.90	@	—
White No. 1½	.67½	@	—
White No. 2	.60	@	—
Anti-Tarnish M. G.	.75	@	—
Colored	.87½	@	—
Kraft	.75	@	—
Manila	.60	@	—
Unbl. Toilet, 1 M.	3.20	@	—
Bleached Toilet	5.26	@	—
Paper Towels—			
Unbleached	1.80	@	—
Bleached	2.10	@	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	7.75	@	9.75
No. 1 Manila Wrapping, 35 lb.	5.00	@	—
No. 2 Manila Wrapping, 35 lb.	4.75	@	—
Boards, per ton—			
News	30.00	@	32.50
Chip	30.00	@	32.50
Sgl. Mla. Lt. Chip	42.50	@	—
Jute Lined Chip	42.50	@	45.00
White Pat. Coated	55.00	@	57.50
Kraft Liners	45.00	@	—
Binders Boards	71.00	@	77.00

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers	
100% Rag Ext. No. 1.	$39.10	@ $46.00	$40.25	@ $47.25
100% Rag	31.05	@ 36.50	32.20	@ 37.75
85% Rag	.....		29.90	@ 35.00
75% Rag	23.60	@ 27.75	24.75	@ 29.00
65% Rag	.....		21.65	@ 26.25
50% Rag	17.55	@ 21.50	18.70	@ 22.75
25% Rag	14.65	@ 17.75	15.80	@ 19.25

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers	
No. 1	$8.60	@ $10.50	$9.75	@ $12.00
No. 2	7.70	@ 9.50	8.90	@ 10.75
No. 3	6.85	@ 8.25	8.00	@ 9.75
No. 4	7.00	@ 8.50	8.20	@ 10.00

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper, Delivered in Zone 1:

No. 1 Glossy Coated	$11.30	@	$12.75
No. 2 Glossy Coated	9.70	@	11.00
No. 3 Glossy Coated	8.60	@	10.00
No. 4 Glossy Coated	6.05	@	9.25
No. 1 Antique (watermarked)	.....	@	9.25
No. 2 Offset	7.45	@	8.50
A Grade E. F.	7.20	@	8.25
A Grade S. & S. C.	7.45	@	8.50
B Grade E. F.	6.65	@	7.75
B Grade S. & S. C.	6.90	@	8.00
C Grade E. F.	6.40	@	7.50
C Grade S. & S. C.	6.65	@	7.75
D Grade E. F.	6.10	@	7.00
D Grade S. & S. C.	6.35	@	7.25

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	25.00	@	26.00
Dry	25.00	@	26.00
(Delivered)			
No. 1 Domestic and Canadian	29.00	@	31.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	2.25	@	2.75
Prime Qualities—			
Easy-Bleaching Sulphite	1.90	@	2.00
Strong Unbleached Sulphite	1.80	@	1.95
(On Dock, Atlantic Ports)			
Kraft Bleached	2.50	@	2.75
Kraft Light & Strong	1.60	@	1.75
Kraft No. 1	1.45	@	1.60
Kraft No. 2	1.35	@	1.40
(F. o. b. Pulp Mill)			
Kraft Domestic	1.25	@	1.75
(Delivered)			
Soda Bleached	2.55	@	—

Add 60 cents per short ton, dock charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.85	@	7.15
Silesias No. 1	4.00	@	4.25
New Unbleached	6.75	@	7.00
Blue Overall	4.90	@	5.00
Fancy	2.00	@	2.15
Washables	1.50	@	1.60
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	4.00	@	4.10

Old Rags

White, No. 1—			
Repacked	2.90	@	3.15
Miscellaneous	2.10	@	2.25
White, No. 2—			
Repacked	1.50	@	1.60
Miscellaneous	1.25	@	1.40
Thirds and Blues—			
Repacked	1.30	@	1.40
Miscellaneous	1.15	@	1.20
Roofing Rags—			
No. 1	1.05	@	1.10
No. 2	.90	@	.95
No. 3 (bagging)	.55	@	.65
No. 4	.60	@	.65
No. 5A	.60	@	.65

Foreign Rags

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	@	2.20
New Light Silesias	5.50	@	5.75
Light Flannelettes	5.50	@	5.75
New White Cuttings	7.00	@	7.50
New Light Oxford	4.00	@	4.50
New Light Prints	3.00	@	3.25

Old Rags

No. 1 White Linens	7.50	@	8.50
No. 2 White Linens	6.50	@	7.50
No. 3 White Linens	4.50	@	—

J. Andersen & Co.

Selling Agents

21 East 40th Street

New York

CHEMICAL & MECHANICAL PULP

Kraft Pulp

BRAVIK OCH ALA NYA AKTIEBOLAG
Södertorne, Sweden
SAAK TRÄINDUSTRI AKTIEBOLAG
Vansfjärden, Sweden
MUNKSUNDS AKTIEBOLAG
Munksund, Sweden
NEMSJÖ CELLULOSA A.-B.
Sprängverken, Sweden

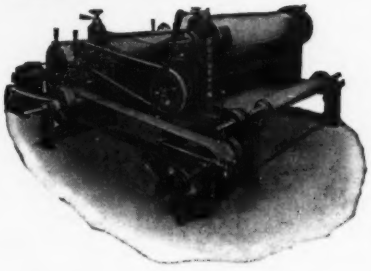
Bleached Sulphite

KELLNER-PARRINGTON PAPER PULP CO., LTD.
Sarpsborg, Norway
Edsvalla, Sweden
Hallein & Villach, Austria

Unbleached Sulphite

ARENDALSKVARTET GRÆNSE CELLULOSEFABRIK
Grenlen, Norway
BRAVIK OCH ALA NYA AKTIEBOLAG
Södertorne, Sweden
CELLULOSEFABRIKK A.-S.
Braviken, Czecho-Slovakia
SVANÖ AKTIEBOLAG
Svanö, Sweden

POTDEVIN



SPECIAL WAXING MACHINES

20 years of wax machine building has given POTDEVIN a varied and thorough knowledge of this type of equipment.

Building such special waxing machines as three-squeeze-roll units, four-finishing-roll units, laminating waxers, water bath waxers; machines for dry striping, for waxing drinking cup paper, etc., makes POTDEVIN the logical choice to build your waxing unit . . . whether it be a standard 47", 77", 84" wide machine or a completely special machine.

POTDEVIN MACHINE CO.
1223 38th Street, Brooklyn, New York
Established 1893 Tel Windsor 6-1700-1-2

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY

CANTON, MASS.

Woolen manufacturers since 1856

ENGLISH ECCO CLAYS CLAYS

UNIFORM • SUPERIOR • DEPENDABLE

English China Clays Sales Corporation
551 Fifth Avenue, New York City

No. 4 White Linens.	2.25	@	3.25
No. 1 White Cotton.	4.25	@	4.75
No. 2 White Cotton.	3.25	@	3.75
No. 3 White Cotton.	2.50	@	3.00
No. 4 White Cotton.	1.90	@	2.20
Extra Light Prints..	2.00	@	2.40
Ord. Light Prints...	1.75	@	2.15
Med. Light Prints...	1.55	@	1.95
Dutch Blue Cottons.	2.25	@	2.50
French Blue Linens..	3.00	@	—
Checks and Blues...	2.00	@	—
Linsey Garments....	1.90	@	2.00
Dark Cottons.....	1.50	@	1.60
Old Shopperies.....	1.30	@	1.45
New Shopperies.....	1.45	@	1.50
French Blues.....	2.25	@	2.50

Old Rope and Bagging

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.75	@	1.90
Domestic	1.70	@	1.80
Wool Tares, light....	1.60	@	1.70
Wool Tares, heavy...	1.80	@	1.90
Bright Bagging.....	1.60	@	1.70
Manila Rope—			
Foreign	2.60	@	2.75
Domestic	2.00	@	3.00
Jute Threads.....	2.75	@	3.00
Sisal Strings.....	1.50	@	1.60
Mixed Strings.....	.55	@	.60

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.30	@	2.40
Ordinary Hard White No. 1....	1.90	@	2.00
Soft White No. 1..	1.60	@	1.75
Soft White Extra..	2.25	@	2.40
Flat Stock—			
Stitchless	.80	@	.85
Overissue Mag....	.70	@	.75
Solid Flat Book...	.55	@	.60
Crumbled No. 1...	.40	@	.45
Ledger Stock White.	1.10	@	1.20
Ledger Stock Colored	.60	@	.70
New B. B. Chips....	.15	@	.20
Manila—			
New Env. Cut.....	1.40	@	1.50
New Cuttings.....	1.00	@	1.20
Old Kraft Machine— Compressed bales..	.65	@	.70
News—			
No. 1 White News	1.25	@	1.30
Strictly Overissue..	.40	@	.45
Strictly Folded....	.37½	@	.42½
No. 1 Mixed Paper..	.17½	@	.22½

Twines

(F. o. b. Mill)
(Soft Fiber)

Coarse Polished—			
India	.12¾	@	.14¼
White Hemp.....	.13¾	@	.15¼
Fine Polished—			
Fine India.....	.16	@	.18
Unpolished—			
Box	.09½	@	—
Paper Makers.....	.09½	@	.10½
Tube Rope.....	.10¼	@	.12½
Wall Paper.....	.10¼	@	.12½
Wrapping	—	@	—
Soft Fiber Rope,..	.12	@	.14
Cotton	.17	@	.20
(Hard Fiber)			
Medium Java.....	.11	@	.17
Mex. Sisal.....	.10	@	.16
Manila	.16	@	.23

Domestic	2.65	@	2.75
Sisal Rope.....	1.75	@	1.85
Mixed Rope.....	.50	@	.60
Transmission Rope...	1.90	@	2.00
Soft Jute Rope.....	2.00	@	2.25
Jute Carpet Threads.	.75	@	.90
Gunny Bagging—			
Foreign	1.65	@	—
Domestic	1.50	@	1.60
Bleachery Burlap...	2.50	@	3.00
Scrap Burlap—			
Foreign	1.55	@	1.65
Domestic	1.40	@	1.50
Scrap Sisal.....	1.75	@	1.80
Scrap Sisal for Shredding	1.80	@	2.10
Wool Tares, Heavy..	1.50	@	1.60
New Burlap Cuttings	2.50	@	2.65
Aust. Wool Pouches.	2.50	@	2.75
Heavy baling bagging	1.60	@	1.75
Paper Mill Bagging..	1.00	@	1.15
No. 2 Bagging.....	.45	@	.60

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints...	.03¼	@	.03½
New White No. 1...	.06¾	@	.07
New Light Flannelettes	.04¾	@	—
Silesias No. 1.....	.04¾	@	—
New Black Silesias..	.03¾	@	.04
Soft Unbleached.....	6.50	@	7.00
Blue Cheviots.....	.05	@	.05¼
Fancy	.03	@	.03¼
Washable	.02¾	@	.03

Cottons—According to grades—			
Blue Overalls.....	.04¾	@	.05
New Black, soft...	.03¾	@	.04
Khaki Cuttings.....	.03	@	.03¼
O. D. Khaki.....	.04	@	—
Corduroy	.02¾	@	.03
New Canvas.....	.06¾	@	.07¼
B. V. D. Cuttings...	.06¾	@	—

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues.....	1.75	@	2.00
Old Blue Overalls...	1.50	@	—
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings.....	3.90	@	4.00
Roofing Stock—			
No. 1.....	1.00	@	1.10
No. 2.....	.75	@	.85
No. 3.....	.65	@	.70

Foreign Rags

(F. o. b. Boston)

Dark Cottons.....	.95	@	1.05
Dutch Blues.....	2.65	@	2.75
New Checks and Blues	2.85	@	3.00
Old Fustians.....	2.25	@	2.50
Old Linsey Garments	2.20	@	2.25
New Silesias.....	3.75	@	4.00

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.06½	@	.07
New White, No. 2.	.03½	@	.04
Light Silesias.....	.03½	@	.04
Silesias, No. 1....	—	@	.04½
Black Silesias, soft	—	@	.03
New Unbleached..	.05½	@	.06
Washable, No. 1..	.01½	@	.01¾
Blue Overall.....	.04	@	.04½
Cottons—Acording to grades—			
Washable No. 2...	.01	@	.01¼
New Blue.....	.01	@	.01¼
Fancy Percales....	—	@	.02½
New Black Soft...	.03	@	.03½
New Light Seconds	—	@	.04½
New Dark Seconds	.50	@	.75
Khaki Cuttings—			
No. 1 O. D.....	.03	@	.03½
No. 2 Mixed.....	.02	@	.02½
Corduroy	—	@	.02
New Canvas.....	.05	@	.05½
New Black Mixed.	.02½	@	.02¾

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.25
Miscellaneous	2.50	@	2.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	3.00	@	3.50
Roofing Stock—			
Foreign No. 1....	—	@	1.10
Domestic No. 1...	—	@	1.05
Domestic No. 2...	—	@	.85
Roofing Bagging..	—	@	.75

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.50	@	1.75
Manila Rope.....	—	@	3.50
Sisal Rope.....	1.50	@	1.75
Mixed Rope.....	.75	@	1.00
Scrap—			
No. 1.....	—	@	1.75
No. 2.....	.95	@	1.00
Wool Tares, heavy..	3.25	@	3.50
Mixed Strings.....	.75	@	1.00
No. 1 New Light Burlap	2.50	@	3.00
New Burlap Cuttings	1.75	@	2.00

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.25	@	2.30
No. 2 Hard White.	1.90	@	2.00
No. 1 Soft White..	1.75	@	1.80
No. 2 Soft White..	1.30	@	1.40
No. 1 Mixed.....	.65	@	.75
Solid Ledger Stock..	1.45	@	1.50
Ledger Stock, white.	1.15	@	1.20
Ledger Stock, colored	.75	@	.80
No. 1 Books, heavy..	.60	@	.75
Manila Cuttings.....	1.45	@	1.50
Print Manila.....	.45	@	.50
Container Manila....	.35	@	.40
Kraft Paper.....	.75	@	.80
No. 1 Mixed Paper..	.22½	@	.27½
Straw Board Chip...	.25	@	.30
Binders Board Chip.	.25	@	.30
Corrugated Board...	.50	@	.55
Overissue News.....	.40	@	.45
Old Newspapers.....	.35	@	.40

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.25	@	2.50
No. 1 Soft White..	1.85	@	2.15
No. 2 Mixed.....	.75	@	.80
Solid Ledger Books..	1.30	@	—
Overissue Ledger Stock	1.30	@	1.50
Mixed Ledgers.....	.85	@	.90
No. 1 Books, heavy..	.65	@	.75
No. 1 Books, light...	.65	@	.75
Crumpled Stitchless Book Stock.....	.55	@	.65
Manila Env. Cuttings	1.70	@	1.85
Manila Envelope Cuttings, Extra Quality	2.00	@	2.10
No. 1 Old Manila...	.65	@	.65
No. 1 Old Manila...	.80	@	.90
White Blank News..	1.30	@	1.40
No. 1 Kraft.....	.70	@	.80
Mixed Papers.....	.15	@	.17½
Print Manila.....	.45	@	.55
Container Manilas...	.27½	@	—
Old Newspapers	.30	@	.37½
Paper Wool Strings..	.50	@	.65
Overissue News.....	.45	@	.50
Box Board Chips....	.20	@	.25
Corrugated Boxes....	.35	@	.42½
Kraft corrugated boxes	.70	@	.75
Screening Wrappers..	.40	@	.45

Bagging

(F o. b. Boston)

Manila Rope—			
Foreign	2.50	@	2.65

CHICAGO

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings....	1.80	@	1.90
No. 1 Hard White.	1.70	@	1.80
No. 1 Soft White..	1.50	@	—
Ledger & Writings..	.75	@	.80
Solid Books.....	.45	@	.50
Blanks	.90	@	—
Krafts	.45	@	.50
New Kraft Cuts.....	1.10	@	—
Manila Env. Cuts...	Nominal		
Ex. No. 1 Manila...	Nominal		
Print Manila.....	Nominal		
Overissue News.....	.35	@	—
Old Newspapers—			
No. 1 Folded News	.25	@	.30
No. 1 Mixed Paper	.15	@	.20
Roofing Stocks—			
No. 1.....	1.00	@	1.05
No. 2.....	.85	@	—

TORONTO

Paper

Bonds

Direct mill shipment in two-ton lots

No. 1 White .....$	35.50	@	—
No. 1 Tints	36.50	@	—
No. 2 White	25.50	@	—
No. 2 Tints	26.50	@	—
No. 2 Golden Rod..	27.50	@	—
No. 3 White	21.00	@	—
No. 4 White	15.00	@	—
No. 4 Tints	16.00	@	—
No. 4 Golden Rod..	17.00	@	—
Direct mill shipment in three-ton lots			
No. 5 White .....$	10.50	@	—
No. 5 Tints	11.50	@	—
No. 5 Golden Rod..	12.00	@	—
No. 6 White	9.00	@	—
No. 6 Tints	9.50	@	—
No. 6 Golden Rod..	11.00	@	—
No. 7 White	8.00	@	—
No. 7 Tints	8.50	@	—
No. 7 Golden Rod..	10.00	@	—
Book—			
No. 1 M. F. ..... $	7.00	@	—
No. 2 M. F.	6.50	@	—
No. 3 M. F.	5.35	@	—
No. 1 S. C.	7.25	@	—
No. 2 S. C.	6.75	@	—
No. 3 S. C.	5.85	@	—

Coated Book & Litho

Ton Lots (resale)

No. 1 .....$	12.00	@	—
No. 2	10.25	@	—
No. 3	8.90	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown.....	4.85	@	5.25
White Wrap.....	4.00	@	—
"B" Manila.....	4.90	@	6.15
No. 1 Manila.....	5.50	@	6.90
Fiber	5.50	@	6.90
Kraft No. 2.....	5.50	@	6.90

(F. o. b. Cars, Toronto)

News per ton—			
Rolls (contract)...46.00		@	—
Sheets 54.00		@	—

Pulp

Ground wood.....$29.00		@	—
Unbleached sulphite. 44.00		@	—
Bleached sulphite... 54.00		@	—
Kraft 50.00		@	—
Soda 54.00		@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut...	2.00	@	—
Soft White.....	1.75	@	—
White Blk. News..	1.25	@	1.10
Book and Ledger—			
Flat Magazine and Book Stock (old)	.70	@	—
Light and Crumpled Book Stock.	.60	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut..	1.35	@	—
Printed Manilas...	.45	@	—
Kraft	.95	@	—
News and Scrap—			
Strictly Overissue..	.50	@	—
Strictly Folded....	.45	@	—
No. 1 Mixed Paper..	.30	@	—

Domestic Rags

(Price to Mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06¼	@	.06½
Light Prints.....	.02½	@	.02¾